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U51 U. S. DEPARTMENT OF AGRICULTURE.

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BUREAU OF PLANT INDUSTRY—BULLETIN NO. 97.

B. T. GALLOWAY, *Chief of Bureau.*

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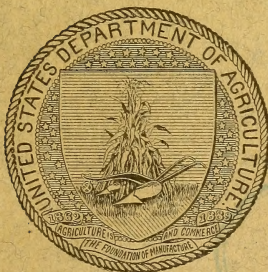
Mr. Harlan

# SEEDS AND PLANTS IMPORTED

DURING THE PERIOD FROM DECEMBER, 1903,  
TO DECEMBER, 1905.

INVENTORY No. 11; Nos. 9897 to 16796.

ISSUED MARCH 15, 1907.



WASHINGTON:

GOVERNMENT PRINTING OFFICE.

1907.

## BULLETINS OF THE BUREAU OF PLANT INDUSTRY.

The work of the Bureau of Plant Industry, which was organized July 1, 1901, is classified under the general subjects of Pathological Investigations, Physiological Investigations, Taxonomic Investigations, Agronomic Investigations, Horticultural Investigations, and Seed and Plant Introduction Investigations. All the scientific and technical publications of the Bureau are issued in a single series of bulletins, a list of which follows.

Attention is directed to the fact that the publications in this series are not for general distribution. The Superintendent of Documents, Government Printing Office, Washington, D. C., is authorized by law to sell them at cost, and to him all applications for these bulletins should be made, accompanied by a postal money order for the required amount or by cash.

- No. 1. Relation of Lime and Magnesia to Plant Growth. 1901. Price, 10 cents.
2. Spermatogenesis and Fecundation of *Zamia*. 1901. Price, 20 cents.
3. Macaroni Wheats. 1901. Price, 20 cents.
4. Range Improvement in Arizona. 1902. Price, 10 cents.
5. Seeds and Plants Imported. Inventory No. 9. 1902. Price, 10 cents.
6. A List of American Varieties of Peppers. 1902. Price, 10 cents.
7. The Algerian Durum Wheats. 1902. Price, 15 cents.
8. A Collection of Fungi Prepared for Distribution. 1902. Price, 10 cents.
9. The North American Species of *Spartina*. 1902. Price, 10 cents.
10. Records of Seed Distribution, etc. 1902. Price, 10 cents.
11. Johnson Grass. 1902. Price, 10 cents.
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18. Observations on the Mosaic Disease of Tobacco. 1902. Price, 15 cents.
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35. Recent Foreign Explorations. 1903. Price, 15 cents.
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37. Formation of the Spores in the Sporangia of *Rhizopus Nigricans* and of *Phycomyces Nitens*. 1903. Price, 15 cents.
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39. The Propagation of the Easter Lily from Seed. 1903. Price, 10 cents.
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43. Japanese Bamboos. 1903. Price, 10 cents.
44. The Bitter Rot of Apples. 1903. Price, 15 cents.
45. Physiological Role of Mineral Nutrients in Plants. 1903. Price, 5 cents.
46. Propagation of Tropical Fruit Trees, etc. 1903. Price, 10 cents.

[Continued on page 3 of cover.]



D. W. Frear

U. S. DEPARTMENT OF AGRICULTURE.

BUREAU OF PLANT INDUSTRY—BULLETIN NO. 97.

B. T. GALLOWAY, *Chief of Bureau.*

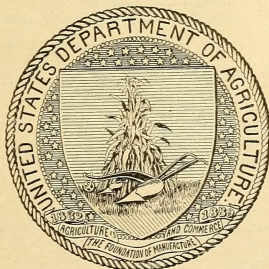
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WASHINGTON:  
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*Editor*, J. E. Rockwell.

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## LETTER OF TRANSMITTAL.

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U. S. DEPARTMENT OF AGRICULTURE,  
BUREAU OF PLANT INDUSTRY,  
OFFICE OF THE CHIEF,  
*Washington, D. C., August 1, 1906.*

SIR: I have the honor to transmit herewith and to recommend for publication as Bulletin No. 97 of the series of this Bureau the accompanying manuscript entitled "Seeds and Plants Imported during the Period from December, 1903, to December, 1905."

This manuscript has been submitted by the Botanist in Charge of Seed and Plant Introduction and Distribution with a view to publication.

Respectfully,

B. T. GALLOWAY,  
*Chief of Bureau.*

Hon. JAMES WILSON,  
*Secretary of Agriculture.*



## SEEDS AND PLANTS IMPORTED DURING THE PERIOD FROM DECEMBER, 1903, TO DECEMBER, 1905.

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### INTRODUCTORY STATEMENT.

This is the eleventh inventory of seeds and plants that have been gathered together by this Office, mainly from foreign countries, and represents two years of work.

It is not published to inform experimenters of plants that are on hand for distribution, because in the great majority of cases the plants and seeds listed have been imported for special problems upon which the Department is at work and they have been already assigned to their respective experimenters and are now, many of them, growing in some part of the country.

These inventories are historical records of the introduction of new plants, some of which have already started new industries in this country. In the past historians have as a rule disdained to consider the advent of a new crop as worthy of careful record, notwithstanding the fact that its arrival might exert a remarkable influence upon the development of the country. It is believed that the publication by the Government of such a record will avoid in the future for these new industries the uncertainty which now exists as to the time of arrival in America of some of our most important plant cultures, which were probably first introduced by the Department of Agriculture. To the large number of agricultural experiment station workers and others who are experimenting with the various introductions, these inventories will be almost indispensable.

As remarked in previous inventories no attempt is made to reform the nomenclature of the plants imported, for in many cases the identification of imported seeds and plants is impossible until several years after their introduction. They must first be grown and studied by specialists in the various plant groups, who are sure sooner or later to include them in their monographs, in which places, and not in such an inventory, botanists are accustomed to search for the most recent nomenclature.



This inventory represents not merely the names of and remarks regarding new plant introductions, but embodies often the notes made at the time of collection by agricultural explorers who have been kept at very considerable expense in the field. In the present case it includes in part the collections made by Prof. H. L. Bolley, of North Dakota, who was sent thru the flax-growing region of Europe in search of the best varieties of flax, especially to find one that was more resistant to the flax rust than those we already have. It covers a portion of the seeds and plants collected by Mr. Ernst A. Bessey during his travels thru a part of the Caucasus, the Crimea, and into Russian Turkestan. It includes a list of valuable new seeds which Hon. Robert P. Skinner very kindly secured in Abyssinia for the Department when sent as commissioner to King Menelik in 1904. The valuable collection of 100 European potato varieties, made by Prof. L. R. Jones, of the University of Vermont, is also included. This inventory includes also the results of Mr. Thomas H. Kearney's explorations in southern Tunis, where he was sent by the Office of Seed and Plant Introduction Investigations to study the date varieties of the Tunisian oases. The collection of date offshoots which Mr. Kearney secured is unique in that it was made after a careful examination of the palms while in full bearing. This is the first time that an agricultural explorer has been given the opportunity to spend the fruiting season in foreign date gardens, and Mr. Kearney's descriptions of the varieties collected in Tunis are from actual observation and not from hearsay. Dry land olives, pomegranates, pistaches, spineless opuntias, and drought-resistant fodder crops were also given attention by Mr. Kearney while in this interesting desert region. The collections made by Mr. P. H. Rolfs during his explorations of the vanilla-growing regions of Mexico are chronicled in this inventory, and the vanilla cuttings secured at that time are contributing their share toward the solution of the problem of vanilla culture in Florida.

A. J. PIETERS,  
*Botanist in Charge.*

OFFICE OF SEED AND PLANT  
INTRODUCTION AND DISTRIBUTION,  
*Washington, D. C., August 1, 1906.*

# INVENTORY.

## 9897 to 10260.

From Russia. Received thru Prof. H. L. Bolley, November 24, 1903.

A miscellaneous assortment of seeds collected by Professor Bolley during the season of 1903, as follows:

9897 to 10167.	LINUM USITATISSIMUM.	Flax.
10168 to 10182.	SECALE CEREALE.	Rye.
10183 to 10193.	AVENA SATIVA.	Oat.
10194 to 10218.	TRITICUM VULGARE.	Wheat.
10219 to 10222.	HORDEUM VULGARE.	Barley.
10223 to 10225.	HELIANTHUS ANNUUS.	Sunflower.
10226.	BROMUS INERMIS.	Smooth brome-grass.
10227 to 10231.		Wild grasses.
10232 to 10235.	MEDICAGO SATIVA.	Alfalfa.
10236 and 10237.	ERVUM LENS.	Lentil.
10238 to 10240.	PISUM SATIVUM.	Pea.
10241 and 10242.	CANNABIS SATIVA.	Hemp.
10243 and 10244.	BRASSICA NAPUS.	Rape.
10245 to 10247.	BRASSICA sp.	Mustard.
10248.	CUCUMIS MELO.	Muskmelon.
10249.	CITRULLUS VULGARIS.	Watermelon.
10250.	RIBES GROSSULARIA (?).	Gooseberry.
10251.	GLEDITSCHIA sp.	Honey locust.
10252.	CORONILLA VARIA.	Crown vetch.
10253.	LOTUS CORNICULATUS.	Bird's-foot trefoil.
10254.	TRIFOLIUM sp.	Wild clover.
10255.	LATHYRUS SYLVESTRIS.	Flat pea.
10256 and 10257.	VICIA sp.	Wild vetch.
10258.	VICIA sp.	Wild yellow vetch.
10259.	PAPAYER sp.	Poppy.
10260.	PRUNUS sp.	Cherry.

## 10261 to 10263.

From Khojend, Russian Central Asia. Presented by Mr. E. Valneff to Mr. E. A. Bessey. Received December 18, 1903.

10261.	PYRUS MALUS.	Apple.
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Seed from wild trees in the mountains.



**10261 to 10263—Continued.****10262. PRUNUS DIVARICATA.****Plum.**

Black variety. Seed from wild trees in the mountains.

**10263. PRUNUS DIVARICATA.****Plum.**

Yellow variety. Seed from wild trees in the mountains.

**10264. QUERCUS SUBER.****Cork oak.**

From Mustapha, Algeria. Received thru Dr. L. Trabut, December 18, 1903.

**10265 and 10266. PISTACIA MUTICA.****Turpentine tree.**

From Smyrna, Turkey in Asia. Received thru Mr. B. J. Agadjanian, December 15, 1903.

**10265.** Very dark brown.**10266.** Very bright green.**10267. PISTACIA ATLANTICA.****Bitoom.**

From Duperre, Algeria. Received thru Mr. Franck Joly, December, 18, 1903.

**10268. PISTACIA TEREBINTHUS.****Terebinth.**

From Marseille, France. Received thru Mr. Claude Montel, nurseryman, by Mr. W. T. Swingle, August, 1903.

**10269. AVENA SATIVA.****Oat.**

From Mustapha, Algeria. Received thru Dr. L. Trabut, government botanist, by Mr. T. H. Kearney, December 18, 1903.

**10270 to 10274.**

From Abo, Finland. Presented by Mr. Alarik Rosenberg, seedsman. Received September 25, 1903.

Seed from crop of 1903, grown on Hovirinha farm in St. Kerins county, state of Abo and Björneborg, Finland.

**10270. HORDEUM VULGARE.****Barley.****10271. AVENA SATIVA.****Oat.****10272. TRITICUM VULGARE.****Wheat.****10273. SECALE CEREALE.****Rye.****10274. PISUM SATIVUM.****Pea.****10275 to 10283.**

From Stockholm, Sweden. Secured by Mr. J. E. W. Tracy, thru the American consul at Stockholm, from the Governor of Luleå, Sweden. Received September 25, 1903.

**10275. HORDEUM VULGARE.****Barley.****10276. HORDEUM VULGARE.****Barley.****10277. TRITICUM VULGARE.****Wheat.****10278. AVENA SATIVA.****Oat.***White.***10279. AVENA SATIVA.****Oat.***Black.***10280. SECALE CEREALE.****Rye.****10281. CANNABIS SATIVA.****Hemp.****10282. PHLEUM PRATENSE.****Timothy.****10283. VICIA CRACCA.**

**10284. PHASEOLUS RADIATUS.****Mung bean.**

From Beaukiss, Tex. Received thru Mr. John B. Lesheen, December 11, 1903.  
Grown in 1903 from S. P. I. No. 6430.

**10285 to 10288.**

From Paris, France. Received thru Mr. W. T. Swingle from the Jardin des  
Plantes, December 21, 1903.

Cuttings of four species of pistache, as follows:

10285. *PISTACIA CHINENSIS.*

10286. *PISTACIA TEREBINTHUS.*

**Terebinth.**

10287. *PISTACIA MUTICA.*

**Turpentine tree.**

10288. *PISTACIA ATLANTICA.*

**Bitoom.****10289 to 10308. VITIS VINIFERA.****Grape.**

From Eriyan, Caucasus, Russia. Received thru Mr. E. A. Bessey, December  
21, 1903.

10289. *Black Yezandari.*

10299. *Kyechmamasi.*

10290. *Huseini.*

10300. *Shirazu.*

10291. *White Saabi.*

10301. *Yellow Yezandari.*

10292. *Mskhali.*

10302. *Goi-chezandaei.*

10293. *White Kishmish.*

10303. *Sem - raz' - daet* (seven-  
fold).

10294. *Khalili* (probably *Yellow*  
*Khalili*).

10304. *Urza.*

10295. *Shirshira.*

10305. *Saäbi* (rose-colored).

10296. *Kulami.*

10306. *Khatchabas.*

10297. *Ambari.*

10307. *Ak uzyum* (white grape).

10298. *Gulyabi.*

10308. *Red Kishmish.***10309 and 10310.**

From Tanegashima, Japan. Presented by Mr. R. Chester to Mr. R. B. Handy.  
Received December 12, 1903.

Native Japanese seeds as follows:

10309.

**"Raishi."**

A kind of gourd. "Sow when other squashes are sown, covering the seed lightly  
with straw. Train on sticks."

10310. *CUCURBITA* sp.

**"Kaboucha."**

A kind of gourd. Culture same as No. 10309.

**10311 to 10314.**

From Honolulu, Hawaii. Received thru Mr. J. G. Smith, Special Agent in  
Charge of the Hawaii Experiment Station, December 26, 1903.

Specimens of native yams, as follows:

10311. *DIOSCOREA DIVARICATA* (?).

**"Hoi."**

Tubers 4 inches in diameter.

10312. *DIOSCOREA DIVARICATA* (?).

**"Hoi."**

Axillary tubers.

10313. *TACCA PINNATIFIDA.*

**"Pia."**

Tuber 5 inches in diameter.

10314. *SMILAX SANDWICENSIS.*

**"Uhi."**



**10315. LINUM USITATISSIMUM.****Flax.**

From Russia. Collected by Prof. H. L. Bolley in the season of 1903. Received December 21, 1903.

(Ramm, No. 2760.) Sample of *Dalgonetz* flax, crop of 1902, from Kharkof government.

**10316. LINUM USITATISSIMUM.****Flax.**

From Russia. Collected by Prof. H. L. Bolley in the season of 1903. Received December 21, 1903.

*Diriny Gorky* flax (Sakowickz No. 1). (See No. 9989.)

**10317. LINUM USITATISSIMUM.****Flax.**

From Russia. Collected by Prof. H. L. Bolley in the season of 1903. Received December 21, 1903.

*Diriny Gorky* (Sakowickz No. 2). Seed said to be the same pedigree as "No. 1," S. P. I. No. 10316.

**10318. TRITICUM VULGARE.****Wheat.**

From Kharkof, Russia. Collected by Prof. H. L. Bolley in the season of 1903. Received December 21, 1903.

**10319. TRITICUM VULGARE.****Wheat.**

From Kharkof, Russia. Collected by Prof. H. L. Bolley in the season of 1903. Received December 21, 1903.

**10320. SECALE CEREALE.****Rye.**

From Russia. Collected by Prof. H. L. Bolley in the season of 1903. Received December 21, 1903.

**10321. AVENA SATIVA.****Oat.**

From Russia. Collected by Prof. H. L. Bolley in the season of 1903. Received December 21, 1903.

**10322. PISTACIA TEREBINTHUS.****Terebinth.**

From Paris, France. Received thru Vilmorin-Andrieux & Co., December 30, 1903.

**10323. PISTACIA VERA.****Pistache.**

From Catania, Sicily. Received thru Mr. Robert W. Heingartner, December 30, 1903.

**10324. SOLANUM COMMERSONI.****Aquatic potato.**

From Marseille, France. Received thru Dr. E. Heckel, January 2, 1904.

"Tubers of the so-called 'aquatic potato' of Uruguay. This species from Uruguay is being experimented with by Doctor Heckel, of Marseille, who is breeding it with the ordinary potato and finds that it gives successive crops on the same soil without the necessity of replanting. It also gives abundant foliage, which he thinks may be used for green forage. He further points out that the bitter flavor of the skin will protect the potato against the depredations of subterranean enemies. Its keeping qualities during the winter are good. Very little rot appears, and rats are not fond of it. The special point, however, to be emphasized in connection with this new species is that the diseases of the potato do not attack it. One difficulty in its culture consists in the necessity of working over carefully the soil to an unusual depth, because the tubers are deeply buried in the soil. It flowers abundantly, beginning in June and ending in September, the flowers having a perfume similar to that of jasmine. Their odor on a hot day is perceptible for several meters. Plant-

ing takes place in southern France by means of whole or cut tubers in April and the harvest is in October. Doctor Heckel's experiments are reported upon in the following publications: Sur le *Solanum commersoni* Dunal, ou pomme de terre aquatique de l'Uruguay, in the *Revue Horticole*, No. 581, December, 1902, p. 200; Contribution à l'Étude Botanique de quelques *Solanum Tubérifères*, par M. Edouard Heckel." (Fairchild.)

**10325. HEDYSARUM CORONARIUM.****Sulla.**

From Malta. Received thru Dr. G. Borg, December 27, 1903.

"Dried roots of sulla covered with the root tubercles caused by *Bacillus radiculicola*. These are imported in order to enable Doctor Moore to make cultures of the germ and ultimately to enable rational experiments to be carried out with this important forage plant, especially adapted to the poor soils, rich in lime, in our Southern States." (Fairchild.)

**10326. PANAX GINSENG.****Ginseng.**

From Korea. Received thru the North Pacific Trading Company, 56 Fifth avenue, Chicago, Ill., January 7, 1904.

Seed guaranteed by the North Pacific Trading Company to be genuine imported seed.

**10327. ANDROPOGON SORGHUM.****Sorghum.**

From Durban, Natal. Received thru Messrs. Lathrop and Fairchild from Mr. Reuben W. Benningfield, January 14, 1904.

Native name *Mapela*. "Seed of a variety of sorghum from the east coast of Africa. This variety is that upon which the natives live, and according to Mr. Claude Fuller, entomologist of the Natal agricultural department, it has proved more resistant to a species of aphid which attacks the sorghum in that region than others which were growing side by side with it. This may prove of value in the sorghum regions of this country." (Fairchild.)

**10328. PISTACIA ATLANTICA.****Bitoom.**

From Orléansville, Algeria. Received thru Yahia ben Kassem, January 14, 1904. Collected in the Sahara.

**10329. PHASEOLUS RADIATUS.****Mung bean.**

From Cairo, Ga. Received thru Mr. J. B. Wight, January 14, 1904.

Grown from S. P. I. No. 6430.

**10330. AVENA SATIVA.****Oat.**

From Agricultural College, N. Dak. Received November 30, 1903.

*Swedish Select.* Grown by the North Dakota Agricultural Experiment Station from S. P. I. No. 9422.

**10331 to 10339.**

From Khojend, Russian Central Asia. Presented to Mr. E. A. Bessey by Mr. E. Valneff. Received January 21, 1904.

**10331 to 10334. VITIS VINIFERA.****Grape.**

Cuttings of the best varieties of grapes grown in Russian Central Asia, as follows:

**10331.** *Tcharas*, or *Charas*.**10333.** *Black Kishmish*.**10332.** *White Kishmish*.**10334.** *Maizi*.

**10331 to 10339—Continued.****10335 to 10337. AMYGDALUS PERSICA.****Peach.**

Cuttings as follows:

**10335.** *Rugani gau* (or *gow*).**10337.** *Shaftali*, white.**10336.** *Shaftali-inzhir*.**10338. AMYGDALUS COMMUNIS.****Almond.**

Cuttings.

**10339. JUGLANS REGIA.****Persian walnut.**

Nuts from trees growing at a considerable altitude, and should, therefore, be rather late in blooming.

**10340 to 10342. VITIS VINIFERA.****Grape.**

From Nikita, near Yalta, Crimea. Presented to Mr. E. A. Bessey by Mr. Theophil Kalaïda, head gardener of the Imperial Gardens at Nikita. Received January 29, 1904.

Grape cuttings as follows:

**10340.** *Shabash*.

Most widely cultivated of the native sorts in Crimea, nine-tenths of the exported Crimean grapes being of this sort (in 1891). A greenish grape, forming medium-sized to large, firm bunches of large roundish berries. Table sort. (Marked *Madame* on label attached to cuttings.)

**10341.** *Tchauch*.

Greenish, large berries, often almost like plums. Bunches loose. Rather capricious, being easily affected by rainy or windy weather. Not much exported. Dessert sort.

**10342.** *Asma*.

Blue black, large, elongated berries in large bunches. Table sort. Not so good as the preceding, but prized for the table because of the contrast between its black bunches and the greenish ones of the other sorts.

**10343 and 10344. CORYLUS AVELLANA.****Filbert.**

From Nikita, near Yalta, Crimea. Presented to Mr. E. A. Bessey by Mr. Theophil Kalaïda, head gardener of the Imperial Gardens at Nikita. Received January 29, 1904.

**10343.** *Badem*.

Native near Yalta. Elongated, large nuts.

**10344.** *Trebizond*.

Native near Trebizond, Asiatic Turkey. Nuts large and round; much grown around Yalta.

**10345 to 10348. PYRUS MALUS.****Apple.**

From Nikita, near Yalta, Crimea. Presented to Mr. E. A. Bessey by Mr. Theophil Kalaïda, head gardener of the Imperial Gardens at Nikita. Received January 29, 1904.

**10345.** *Sabla Sinap*.

Distinguished for its beautiful appearance.

**10346.** *Kandil Sinap*.

Widely grown in the Crimea. Fruit longer than No. 10348. For description of both, see *Revue Horticole*, No. 17, 1890, p. 398.

**10347.** *Konstantinopol*.**10348.** *Sari Sinap*.

The most widely grown and best of the Crimean apples. Very late keeper.

**10349 to 10351. SORBUS DOMESTICA.****Service tree.**

From Nikita, near Yalta, Crimea. Presented to Mr. E. A. Bessey by Mr. Theophil Kalaida, head gardener of the Imperial Gardens at Nikita. Received January 29, 1904.

**10349. *Grossfrüchtige.***

A sort with pear-shaped fruits,  $1\frac{1}{4}$  to  $1\frac{1}{2}$  inches by 1 to  $1\frac{1}{4}$  inches.

**10350. *Gewöhnliche.***

A sort with apple-shaped fruits, about 1 inch in diameter. Both this and No. 10349 ripen rather late.

**10351.**

Seedlings about 18 inches high.

**10352. TRIFOLIUM JOHNSTONI (?).****Uganda clover.**

From Uganda, East Africa. Received thru Mr. D. G. Fairchild from Mr. R. N. Lyne, Director of Agriculture, Zanzibar, East Africa, January 30, 1904.

"The identification of this species has not been definitely made, but according to a letter of December 29 from Mr. Lyne this is the Uganda clover, which may be of value for breeding experiments in this country. The high plateau of Uganda, upon which this clover grows, altho in the Tropics, has a comparatively mild climate. It is, of course, quite frostless. Mr. Lyne reports nothing further regarding the usefulness of this species, but remarks that Mr. Ainsworth, who secured the seed for him, had great difficulty in collecting it." (Fairchild.)

**10353. PHASEOLUS VULGARIS.****Bean.**

From Garrettsville, Ohio. Received thru Mr. George J. Streator, February 1, 1904. Grown from S. P. I. No. 3382.

Mr. Streator reports that these beans are far superior to the ordinary white bean, for the reason that they do not spot so badly in wet weather.

**10354 to 10363.**

From Newton-le-Willows, Lancashire, England. Presented by T. and J. Garton for testing at the experiment stations. Received February 1, 1904.

**10354. AVENA SATIVA.****Oat.**

*Yellow.* (No. 1.)

**10355. AVENA SATIVA.****Oat.**

*Gray.* (No. 2.)

**10356. AVENA SATIVA.****Oat.**

*Black.* (No. 3.)

**10357. AVENA SATIVA.****Oat.**

*Black.* (No. 4.)

**10358. AVENA SATIVA.****Oat.**

*White.* (No. 5.)

**10359. AVENA SATIVA.****Oat.**

*White.* (No. 6.)

**10360. HORDEUM HEXASTICHUM.****Six-row barley.**

(No. 7.)

**10361. HORDEUM HEXASTICHUM.****Six-row barley.**

(No. 8.)

**10362. HORDEUM DISTICHUM.****Two-row barley.**

(No. 9.)

**10363. HORDEUM DISTICHUM.****Two-row barley.**

(No. 10.)



**10364. TRITICUM DURUM.****Wheat.**

From Idalia, Colo. Received thru Mr. J. A. Riedesel, February 4, 1904. Grown from S. P. I. No. 9478.

*Kubanka* macaroni wheat.

**10365. CITRUS LIMETTA.****Lime.**

From Seharunpur, India. Presented by Mr. W. Gollan, superintendent of the Government Botanical Gardens, at the request of Rev. N. L. Rockey. Received February 5, 1904, thru Mr. G. N. Collins.

"Fruits at Seharunpur and also at Mussoorie at an altitude of 5,800 feet. A good lime and the hardiest of the Indian sorts." (*Gollan.*)

**10366. SECALE CEREALE.****Rye.**

From San Giovanni a Teduccio (near Naples), Italy. Received thru Dammann & Co., February 6, 1904.

*Abruzzes.*

**10367. SECALE CEREALE.****Rye.**

From North Water Gap, Pa. Received thru Mr. M. Luther Michael, February 8, 1904.

*Winter Ivanof.* Grown in 1903 from S. P. I. No. 1342.

**10368 to 10370. PUNICA GRANATUM.****Pomegranate.**

From Chios, Turkey in Asia. Presented by Mr. N. J. Pantelides. Received February 9, 1904.

**10371. ELAEAGNUS ANGUSTIFOLIA.****Oleaster.**

From Tiflis, Caucasus. Presented to Mr. E. A. Bessey by Mr. A. Rolloff, director of the Tiflis Botanical Garden. Received February 10, 1904.

*Unab-pschat* ("date fruit"), a sort with large fruits.

**10372. ELAEAGNUS ANGUSTIFOLIA.****Oleaster.**

From Tiflis, Caucasus. Presented to Mr. E. A. Bessey by Mr. A. Rolloff, director of the Tiflis Botanical Garden. Received February 10, 1904.

*Matna-pschat* ("finger fruit"), a large-fruited sort.

**10373 and 10374. TRIFOLIUM ALEXANDRINUM.****Berseem.**

From Cairo, Egypt. Received thru Mr. George P. Foaden, secretary of the Khedivial Agricultural Society, February 10, 1904.

**10373.** *Muscowi*, or *Misowi*.

**10374.** *Saida*, or *Saidi*.

**10375. LATHYRUS SATIVUS.****Bitter vetch.**

From Cairo, Egypt. Presented by Mr. George P. Foaden, secretary of the Khedivial Agricultural Society. Received February 10, 1904.

Known in Egypt as *Gilban*.

**10376 and 10377. PISTACIA spp.**

From Aintab, Turkey in Asia. Received thru Rev. A. Fuller, February 12, 1904.

**10376.** *PISTACIA VERA.*

**Pistache.**

Mixed varieties of the true pistache.

**10377.** *PISTACIA MUTICA.*

**Turpentine tree.**

"Obtained from the eastern slope of the Amanus Mountains 60 miles west of Aintab, and 'can be relied on as good.' Trees there are largest and best in the country and climate as dry as could be desired, not being subject to the moisture which affects the western slope of the mountains, because of the nearness to the sea. This variety will take the grafts (buds) of *P. vera*." (*Fuller.*)

**10378. LINUM USITATISSIMUM.****Flax.**

From Salem, Oreg. Received thru Mr. Eugene Bosse, January 28, 1904.  
Grown in 1903 from S. P. I. No. 9457.

**10379 to 10381. LINUM USITATISSIMUM.****Flax.**

From Vologda, Russia. Procured by Prof. H. L. Bolley from Mr. Pierotraschko, government agronomist. Received January 25, 1904.

From the northern limit for the maturing of flax seed, where the very finest type of Russian fiber is produced.

**10382 to 10391. TRITICUM spp.****Wheat.**

From Cairo, Egypt. Presented by Mr. George P. Foaden, secretary of the Khedivial Agricultural Society. Received February 19, 1904.

**10392 to 10396. CAPSICUM ANNUUM.****Pepper.**

From Santa Clara, Cal. Received thru C. C. Morse & Co., January, 1904.  
Seed grown from stock furnished by the Department, as follows:

**10392.****Paprika pepper.**

Grown from S. P. I. No. 9475.

**10393.****Red pepper.**

Grown from S. P. I. No. 3733.

**10394.****Red pepper.**

Grown from S. P. I. No. 7654.

**10395.****Red pepper.**

Grown from S. P. I. No. 3977.

**10396.****Sweet pepper.**

Grown from S. P. I. No. 3905.

**10397. RAPHANUS SATIVUS.****Radish.**

From Santa Clara, Cal. Received thru C. C. Morse & Co., January, 1904.  
*Erfurt Crimson Giant.* Grown from S. P. I. No. 9487.

**10398. LOTUS TETRAGONOLOBUS.****Winged pea.**

From Santa Clara, Cal. Received thru C. C. Morse & Co., January, 1904.  
Grown from S. P. I. No. 7700.

**10399. RAPHANUS SATIVUS.****Radish.**

From Santa Clara, Cal. Received thru C. C. Morse & Co., January, 1904.  
*Everlasting.* Grown from S. P. I. No. 4966.

**10400 and 10401. ZEA MAYS.****Sugar corn.**

From Auburn, N. Y. Received thru Mr. G. W. Boynton, February 25, 1904.  
*Malakhof.* Two selections of *Malakhof* corn grown from S. P. I. No. 2799.

**10400.** First early.**10401.** Better quality, but second early.**10402. HORDEUM DISTICHUM NUTANS.****Two-row barley.**

From Kwassitz, Austria. Received thru Aktien-Zuckerfabrik, March 2, 1904.  
Original *Hanna* pedigreed brewing barley.

**10403 to 10404. GOSSYPIUM ARBOREUM (?).****Tree cotton.**

From Guadalajara, Mexico. Secured by Mr. Edward B. Light, United States consular agent for Señor Hilario Cuevas, of San Luis Soyatlan, Jalisco, Mexico. Received February 10, 1904.

**10403. (Light's No. 1.)**

"The common variety which grows wild in many parts of the state. It is claimed that the tree resists the effects of the drought when other trees perish. There are no known cultivated cotton trees, but there are native trees which have produced a harvest of 50 pounds of cotton. Neither the light frosts we have, nor the boll weevil, nor any other insects injuriously affect the trees. This is claimed by people who have known the tree for fifty years." (*Light.*)

**10404. (Light's No. 2.)**

"The finest quality of cotton, and yields more prolifically. It seems that a quarter of a century or more ago the natives used this cotton for making cloth, but none has been made of late years and the trees have never been cultivated by the present generation with that end in view. This tree is readily grown and is very hardy. The tree usually begins to bear when it is from 4 to 5 years old." (*Light.*)

**10405. MUSA TEXTILIS.****Manila hemp.**

From Manila, P. I. Presented by Mr. H. T. Edwards, of the Bureau of Agriculture, to Mr. L. H. Dewey. Received February 29, 1904.

Seed collected in Tayanas Province.

**10406. VICIA FABA.****Broad bean.**

From London, England. Received thru James Veitch & Sons (Limited), 544 King's road, Chelsea, March 1, 1904.

*Veitch's Improved Longpod.* This variety should be sown in pots or boxes in a cold frame in January and transplanted early in March, lifting with a good ball and mounding up the plants. This is better for early supplies than sowing in the open in autumn. For succession the seed should be sown every three weeks from February 1 until June, on a north border in heavy loam in rows 3 feet apart. To get early pods, topping should take place when a good set of blooms is secured.

**10407. PHASEOLUS RADIATUS.****Mung bean.**

From Whittier, Cal. Received thru Mr. C. W. Leffingwell, jr., March 5, 1904. Grown from S. P. I. No. 6430.

**10408. (Undetermined.)**

From Cochin China. Presented by Mr. J. B. de Taillac, Astoria, Long Island City, N. Y., February 25, 1904.

According to Mr. de Taillac's letter this plant exhales an essence which is so disagreeable to mosquitoes that when placed in windows the insects do not enter the room. This evidence of the efficaciousness of the plant Mr. de Taillac asserts on the information of a friend in Cochin China, where the plant is indigenous.

Mr. de Taillac further remarks that this is also a fodder plant of some value, altho it gives to the milk a slightly disagreeable taste, which can be remedied, however, by the addition to the ration of such a fodder as beets. (See letter of February 3, 1904.)

**10409. SWIETENIA MAHAGONI.****Mahogany.**

From Santa Clara, Cuba. Presented by Julio S. Montero & Brothers, March 4, 1904.

*Cuba.* Seeds of mahogany from the plantation of the father of Montero & Brothers, situated in the province of Santa Clara.

**10410. ALEURITES CORDATA.****Wood-oil tree.**

From Hankow, China. Presented by Hon. L. S. Wilcox, consul-general. Received March 3, 1904.

Seed of the wood-oil tree from the province of Hunan, China, fall crop of 1903. According to Consul-General Wilcox's letter of January 12, 1904, "this tree grows

wild in the mountains of Szechuan and is also cultivated in the lowlands. The trees, reaching 15 to 20 feet in height, are grown from seed and produce nuts in five or six years. The oil is prest from these seeds, and when they are roasted, before being prest, the oil is more easily extracted. It is better and more is obtained by the latter process. There are several varieties of oil. The yellow or straw-colored one is most exported. The price in this market at present is \$5 gold a picul (33½ pounds). One variety is black and quite thick and is used entirely by the Chinese. It costs \$9 to \$10 a picul.

"The name of the oil differs in various localities, as *tung-yu* and *pai-yu*. The value of this oil is due to its astringent and drying qualities. It is used in paints, fine varnishes, and in the manufacture of fine soaps. During the past two years orders from the United States have been constantly increasing, from both the Atlantic and the Pacific coasts. The export is in its infancy but rapidly increasing. The past year 54,475,900 pounds of wood oil were exported from Hankow. This export is annually increasing, the larger portion going to Europe. Seeds can be obtained about the first of the year from orders filled in Hunan and Szechuan. Some have already been sent to the San Joaquin Valley, in California, to a private individual, where they are growing finely, and have led to a request for about 5,000 more seeds from the same party." See also No. 13104.

### 10411 to 10419. VICIA FABA.

### Broad bean.

From London, England. Received thru William Bull & Sons, Chelsea, S. W., March 3, 1904.

10411. *Bull's Mammoth.*

10416. *Seville Longpod.*

10412. *Beck's Dwarf Green Gem.*

10417. *Windsor Improved.*

10413. *Early Longpod.*

10418. *Windsor Green Harlington.*

10414. *Green Longpod Nonpareil.*

10419. *Johnson's Wonderful Longpod.*

10514. *Monarch Longpod.*

"Broad beans are gross feeders and require a good rich soil and a liberal supply of manure for successful growth. For successional and main crops sow in February, March, and April. The later kinds should be planted in drills 3 inches deep, 4 to 6 inches apart in the rows, the rows to be 2 feet apart. A deep, strong, tenacious soil, liberally manured, is most suitable. Gather for the table when the beans are no larger than full-grown peas, as they become almost uneatable if left to mature, the tegument then being objectionably tough and leathery and the flavor strong. Pick evenly, not young and old together. In England broad beans are subject to black fly, which, if allowed to make headway, will ruin the crop.

"In England the broad bean is one of the best-paying vegetables, and altho it has been successfully grown in America its good qualities have not yet come to be appreciated here. It is worthy of serious consideration." (*Fairchild.*)

### 10420 to 10435. VICIA FABA.

### Broad bean.

From London, England. Received thru James Carter & Co., March 3, 1904.

10420. *Carter's New Market Garden Windsor.*

10427. *Aquadulce.*

10421. *Carter's Improved Windsor.*

10428. *Minster Giant Longpod.*

10429. *Carter's Harlington Green Windsor.*

10422. *Carter's Seville Giant Longpod.*

10430. *Green Windsor.*

10423. *Carter's Mammoth Longpod.*

10431. *Beck's Dwarf Green Gem.*

10432. *Green Longpod.*

10424. *Early Mazagan.*

10433. *Carter's Masterpiece Green Longpod.*

10425. *Early Longpod.*

10434. *Carter's Leviathan.*

10426. *Royal Dwarf Fan.*

10435. *Carter's Green Leviathan.*

Plant from November to January for earliest, and from February to May for main crop.



**10436 and 10437. VICIA FABA.****Broad bean.**

From Boston, England. Received thru W. W. Johnson & Son (Limited), March 3, 1904.

**10436.** *Johnson's Monster Windsor.*

**10437.** *Johnson's Mammoth Green Longpod.*

In England these beans are frequently sown in November, being perfectly hardy there. It is customary to plant in double rows, viz, 9 inches apart; that is to say, the two rows in a triangular manner. If when full grown in July they are attacked by black fly, cut off the tops of the plants.

**10438 to 10448. VICIA FABA.****Broad bean.**

From Reading, England. Received from Sutton & Sons, March 3, 1904.

**10438.** *Sutton's Improved Windsor.*

**10440.** *Beck's Dwarf Green Gem.*

**10441.** *Green Longpod.*

**10439.** *Sutton's Green Windsor.*

**10442.** *Sutton's Giant Windsor.*

*Culture for 10438 to 10442.*—Sow in February, March, April, and May. Double rows are usual, allowing 9 inches between the two lines forming the row, and from 2 to 3 feet between the rows. The best soil for beans is a deep, strong loam, with plenty of manure.

**10443.** *Sutton's Green Giant.*

**10446.** *Improved Minster Longpod.*

**10444.** *Sutton's Exhibition Longpod.*

**10447.** *Royal Dwarf Cluster.*

**10445.** *Sutton's Mammoth Longpod.*

**10448.** *Early Mazagan.*

*Culture for 10443 to 10448.*—A sowing may be made in November on light, dry soil, but not until January, February, or March on other soils. Double rows are usual, allowing 9 inches between the two lines for all except Nos. 10447 and 10448, for which allow only 6 inches. The double rows in all cases are from 2 to 3 feet apart. The best soil for beans when sown in the spring is a deep loam, which should be well manured.

**10449. ILEX CRENATA.****Holly.**

From Yokohama, Japan. Received thru the Yokohama Nursery Company, January 23, 1904.

"Seed of a hardy evergreen, highly esteemed as a good hedge plant for cold climates." (*H. Suzuki.*)

**10450. VOANDZEIA SUBTERRANEA. Woandzu, or African goober.**

From Camden, Ala. Presented by Dr. L. E. Starr. Received February 17, 1904. Grown from S. P. I. No. 8915, originally from German East Africa.

**10451 to 10453. NICOTIANA TABACUM.****Tobacco.**

From Cuba. Received thru Mr. A. D. Shamel, of this Department, March 10, 1904.

**10451.**

From plantation of Señor Govino Menéndez, near San Juan y Martinez, in the Vuelta Abajo district. (Shamel's No. 1.)

**10452.** *Cuban.*

From plantation of Señor Galixto López, near San Luis. (Shamel's No. 2.)

**10453.** *Cuban.*

From plantation of Señor Justino Sanchez, in Vuelta Abajo district, near Pinar del Rio. (Shamel's No. 3.)

**10454. TRITICUM DURUM.****Macaroni wheat.**

From Blackfoot, Idaho. Received thru Prof. H. T. French, director of the Idaho Agricultural Experiment Station, March 9, 1904.

*Kubanka* macaroni wheat grown from S. P. I. No. 9478.

**10455. AVENA SATIVA.****Oat.**

From Blackfoot, Idaho. Received thru Prof. H. T. French, director of the Idaho Agricultural Experiment Station, March 9, 1904.

*Swedish Select* oat grown from S. P. I. No. 9422.

**10456. PHLEUM PRATENSE.****Timothy.**

From Copenhagen, Denmark. Presented by the Botanic Gardens of Copenhagen, thru Prof. Dr. Warming. Received March 8, 1904.

For breeding purposes.

**10457. AMYGDALUS PERSICA.****Peach.**

From Bassorah, Arabia. Presented by Haji Abdulla el Nejem, of Bassorah. Received March 8, 1904.

Seeds of various varieties of peaches which are grown in the region of Abdul Khasseb, the great date-growing center of Arabia. These peaches are subjected to the extreme hot weather of this portion of Arabia and are likely to be of interest for breeding purposes in California and Arizona.

**10458 to 10461. PHLEUM PRATENSE.****Timothy.**

From Austria-Hungary. Presented by Prof. Emanuel Gross, of the Agricultural Academy, Tetschen-Liebwerd. Received March 9, 1904.

**10462. COCHLEARIA ARMORACIA.****Horse-radish.**

From Grand Island, Nebr. Received thru Mr. E. Corbin, March 14, 1904.

*Malin.* Grown from S. P. I. No. 5761.

**10463. CALOPHYLLUM INOPHYLLUM.**

From Honolulu, Hawaii. Received thru Mr. J. G. Smith, in charge of the Agricultural Experiment Station, March 12, 1904.

Seed of this tropical tree, related to the mangosteen, for Mr. Oliver's experiments in grafting.

**10464. PSIDIUM sp.****Guayabillo.**

From Iguala, Guerrero, Mexico. Presented by Mr. Federico Chisolm, Arcelia. Received January 11, 1904.

**10465 to 10472.**

From Arcelia, Guerrero, Mexico. Presented by Mr. Federico Chisolm. Received March 12, 1904.

Native Mexican bulbs and seeds, for the most part unidentified.

**10473. SOLANUM JAMESII.****Potato.**

From Moab, Utah. Received thru Mr. E. Corbin, of Grand Island, Nebr., March 14, 1904.

*Wild or Cave Dwellers'* potatoes. "I obtained these potatoes last October, when on a visit to southeastern Utah, at Moab, a town about 40 miles south of the Denver and Rio Grande Railway, leaving the railway at Thompson Springs. It is a small town near the mouth of the Grand River where it joins the Green River. Some, found where the ground was soft, were larger than others. It will be seen that there

are two kinds. They have run all over the ground where it is not cultivated. They live in the ground frozen hard all winter. They have a top and leaf resembling tomato." (*Corbin*.)

**10474. TRITICUM MONOCOCCUM.**

**Einkorn.**

From Erfurt, Germany. Received thru Haage & Schmidt, March 14, 1904.

**10475 to 10521.**

From Sydney, New South Wales, Australia. Presented by Mr. J. H. Maiden, superintendent of the Sydney Botanical Gardens. Received March 1, 1904.

A collection of small packets of seed of native plants, as follows:

**10475. ACACIA ANEURA.**

"Mulga" or "Yarren." A tall shrubby plant or small tree, never attaining a much greater height than 20 feet. Affords an unfailing supply of good forage during long and severe droughts. Drought-enduring qualities are remarkable. Wood is excessively hard and valuable for timber. Considered worthy of cultivation. Western Australia thru mainland colonies to Queensland. Peculiar to the arid western plains beyond the Darling River. (Reference: *Forage Plants of Australia*, p. 33.)

**10476. ACACIA MONTANA.**

A tall shrub, widely distributed in mountain and forest regions, rocky hills, etc., in the southwestern part of New South Wales.

**10477. ACACIA NERIIFOLIA.**

A tall shrub. New South Wales, dividing range to table-lands from Clyde River to Queensland; open forests on Balonne River.

**10478. ALCHORNEA ILICIFOLIA.**

A tall shrub. New South Wales, brush forests; Queensland.

**10479. ALPINIA CAERULEA.**

An erect perennial herb, 3 to 5 feet, with a terminal inflorescence. New South Wales; coast district in brush forests from Hunter River to Queensland.

**10480. BARRINGTONIA ALBA.**

Molucca Islands. "The majestic habit of the tree, the splendor of the foliage, the magnificence of the flowers, and, finally, the singular form of the fruit, will attract the attention of the most indifferent." (Extract from *Flore des Serres*, vol. 7, genus description.)

**10481. BLANDFORDIA FLAMMEA.**

Tender, bulbous plant with large, showy, red flowers in short racemes. Eastern Australia, in peat bogs and on shady mountain sides.

**10482. BLENNODIA LASIOCARPA.**

"Hairy podded cress." Annual, 1 to 1½ feet high, covered with pubescence; pod hairy. Peculiar to the Darling River, sandy plains near the Murray River, and generally over the arid plains of Australia. Makes its growth during the hottest part of the year; valuable for forage. (Reference: *Forage Plants of Australia*, p. 4.)

**10483. BRUNONIA AUSTRALIS.**

Herbaceous plant with capitate blue flowers. New South Wales; in dry pastures, chiefly in the west; also in other colonies.

**10484. CASSINIA THEODOREI.**

A heath-like shrub; branches and under side of leaves woolly white. New South Wales, head of Gwydir River.

**10485. CAPPARIS MITCHELLII.**

"Native orange." A small tree. Fruit from 1 to 2 inches in diameter; eaten by natives. Wood hard, whitish, close grained, suitable for carving, engraving, and similar purposes. All colonies except Tasmania and Western Australia.

**10475 to 10521—Continued.****10486. *CASTANOSPORA ALPHANDI.***

Large tree with pinnate leaves; flowers racemose-paniculate.

**10487. *CELTIS PANICULATA.***

Tree 25 to 35 feet high; wood soft, white, pliable; used for hoops for casks. New South Wales, Queensland, and northern Australia; not endemic in Australia.

**10488. *CHLORIS TRUNCATA.***

"Windmill grass," or "star grass." An erect grass, perennial and showy. Valuable as a forage plant; an excellent summer and autumn grass. In all Australian colonies except Tasmania and Western Australia.

**10489. *COMBRETUM LOEFLINGII.***

Climbing or diffuse shrub. Tropical South America.

**10490. *CRASPEDIA RICHEA.***

A rather large perennial. New South Wales, thruout the colony in grass land; also in Victoria, Tasmania, South Australia, and Western Australia.

**10491. *DIANELLA TASMANICA.***

Perennial fibrous-rooted plant with grasslike leaves 2 to 4 feet long; large, loose panicles of blue flowers on delicate pendent pedicels. Succeeds best in open border of a cool greenhouse. Tasmania and Australia; common in rich, moist soil.

**10492. *DILLWYNIA CINERASCENS.***

Pretty yellow-flowered juniper-leaved shrub. New South Wales; also coast district and dividing range from Hunter River to Victoria; Tasmania. Common in grassy places.

**10493. *DODONAEA TRIQUETRA.***

"Hop bush." A shrub. Victoria, New South Wales, Queensland.

**10494. *DYSOXYLON MUELLERI.***

"Pencil cedar" or "turnip wood." Tree with compound leaves; timber of a rich, red color; used for cabinetmaking and window work. Northern New South Wales and Queensland.

**10495. *ELAEODENDRON CURTIPENDULUM.***

Probably a tree or shrub. Norfolk Island.

**10496. *EREMOPHILA BROWNII.***

Very variable shrub, often tall. Victoria, Murray desert; New South Wales, western plains; South Australia.

**10497. *EREMOPHILA LATIFOLIA.***

Small spreading shrub. New South Wales, southern interior; Western and South Australia.

**10498. *EREMOPHILA MACULATA.***

Tall shrub with rigid branches. Western and South Australia; western plains of New South Wales and Queensland; Victoria.

**10499. *EREMOPHILA MITCHELLI.***

Shrub or small tree, on elevated stony lands. New South Wales, western plains in the south.

**10500. *EREMOPHILA OPOSITIFOLIA.***

"Emu bush." Ornamental shrub or small tree, sometimes attaining a height of 20 feet; more or less hoary; leaves 1 to 2 inches in length; flowers about 1 inch long. Grows in the most arid parts of the continent and is available for forage. "Will grow when not a blade of grass is seen for weeks together." Worthy of cultivation. Plains between Lachlan and Darling rivers in New South Wales; near Murray River in Victoria, and in the interior of South Australia.



## 10475 to 10521—Continued.

10501. *EREMOPHILA BOWMANI*.

Erect shrub. Western plains from Byrock to Queensland.

10502. *ERIOSTEMON DIFFORMIS*.

Small bushy shrub. Interior of New South Wales.

10503. *EUCALYPTUS BEHRIANA*.

A small shrub or small tree. Near sources of Werribee River, on stony hills; in hill forest region of Warrabara, near Crystal Brook and Mount. Remarkable on deep, nearly clay soil.

10504. *EUCALYPTUS DIVERSICOLOR*.

"Karri," "Blue gum." Colossal tree, exceptionally reaching a height of 400 feet. Furnishes good timber for building. Southwestern Australia, in fertile, rather humid, valleys; on small elevations in swamps near rivers beyond the reach of water.

10505. *EUCALYPTUS COCCIFERA*.

Small tree with leaves under 3 inches long. Tasmania, 3,000 to 4,000 feet elevation. Possibly a subalpine form of *E. amygdalina*.

• 10506. *EUCALYPTUS INCRASSATA*.

Shrubby or arborescent, exceptionally rising to 30 feet. From the Murray and Darling rivers thru desert tracts to the Great Bight. Chiefly on sand ridges, but also on Tertiary limestone, extending in some places to the brink of the ocean.

10507. *EUCALYPTUS TERETICORNIS*.

"Flooded gum tree." Tall tree when well developed, but seldom exceeding 100 feet. Timber is excellent. Never very far removed from littoral regions; occupying generally humid flats or growing around swamps and lakes or along water courses, never on saline ground or salt-water streams.

10508. *EUCALYPTUS VIRGATA*.

A tall, straight-growing white gum. Valleys of the higher parts of the Blue Mountains or at the foot of cliffs in fairly good soil.

10509. *HOVEA HETEROPHYLLA*.

A blue-flowered, evergreen shrub, prostrate or decumbent. New South Wales, coast district to table-land in dry, stony localities.

10510. *MELALEUCA PUSTULATA*.

Small or tall shrub. New South Wales, southern interior; Victoria, Tasmania, South Australia.

10511. *MYOPORUM DESERTI*.

"Sweet-fruited myoporum." Erect shrub, 3 to 4 feet high, with linear leaves 1 to 2 inches long. Said by some to be poisonous when in fruit; others state that it is a capital forage plant. Found principally in the interior of all the colonies of Australia. (See *Forage Plants of Australia*, p. 40.)

10512. *OLEARIA PIMELOIDES*.

Bushy shrub. Victoria and western plains of New South Wales.

10513. *PODOLEPIS ACUMINATA*.

Erect perennial shrub. New South Wales; Victoria, Hardinger range at elevations of 5,000 feet; Tasmania, abundant in many parts of the colony, ascending to 4,000 feet.

10514. *PROSTANTHERA STRIATIFOLIA*.

Rather small, rigid shrub. New South Wales, barren hills of the interior from Lachlen River to Queensland.

10515. *GREVILLEA LINEARIS*.

A tall, delicate shrub, with spreading branches and linear leaves. New South Wales, coast district and dividing range from Clyde River to Port Jackson.

**10475 to 10521—Continued.****10516. SPOROBOLUS LINDLEYI.**

A slender-growing perennial grass. Grows on rich soil and is much relished by all kinds of stock. All Australian colonies except Tasmania.

**10517. SCLEROLAENA BICORNIS.**

"Cotton bush." Small, stout shrub, densely white, tomentose. New South Wales, western plains.

**10518. TRICHINIUM ALOPECUROIDIUM.**

Rather slender, perennial herb. New South Wales, western plains; also in other Australian colonies.

**10519. TRICHINIUM OBOVATUM.**

"Silver bush." An erect undershrub 1½ to 4 feet. Flower spikes globular. Has remarkable drought-enduring qualities; will grow in the driest of soils when once fairly established. Valuable as a forage plant. Arid interior of all Australian colonies.

**10520. TRICHINIUM EXALTATUM.**

Tender perennial, 2 to 3 feet. Western plains of New South Wales; other Australian colonies.

**10521. TRICHINIUM NOBILE.**

"Yellow-hairy spikes." Stout perennial herb. Not easily affected by drought; affords a rich, succulent herbage even in very dry weather, of which stock are very fond. Interior of New South Wales and South Australia and Victoria. (Reference: *Forage Plants of Australia*, p. 85.)

**10522. GARCINIA MORELLA.****Gamboge.**

From Kingston, Jamaica. Presented by Dr. William Fawcett, director of the Botanical Garden. Received March 17, 1904.

"A moderate-sized tree which produces the true gamboge of commerce, used in Europe and America as a pigment. In the Orient this pigment is used for dyeing silks and other fabrics. The oil in the seeds is used in Mysore as a substitute for lamp oil. These seeds are imported for use as a stock for the mangosteen, upon which the latter was grown successfully many years ago by Mr. Harris, superintendent of Castleton Garden, Jamaica, and also later by Mr. Hart, of Trinidad. Fruit the size of a cherry, subglobose, slightly four-lobed, four-celled, and four-seeded. In Singapore this species grows without any particular attention, it is said, and attains a height of 35 to 50 feet. It is probable that this species has a much more vigorous root system than the mangosteen, and is therefore a promising possibility as a stock for the mangosteen." (*Fairchild*.)

**10523. PHASEOLUS ANGULARIS.****Bean.**

From Kingston, R. I. Presented by Mr. G. E. Adams, of the Rhode Island Agricultural Experiment Station. Received March 12, 1904.

A bean secured by Professor Brooks, of the Massachusetts Agricultural Experiment Station, in Japan, under the name of "*White-Podded Adzuki soy bean*."

**10524. MISCANTHUS CONDENSATUS (?).**

From Yokohama, Japan. Presented by Mr. H. Suzuki, of the Yokohama Nursery Company. Received March 9, 1904.

"This root having been brought from the southeastern part of Japan, where there is no snow in winter, it is doubtful whether it will stand your climate. It will therefore be well to try it in such Southern States as Florida or California. I am sure it will succeed well. In the native region where these plants are growing its leaves remain green all thru the year and cattle are fed upon it. It should be cut while young, before its full growth, as the stem gets too hard if left too long. Young stems can be cut gradually from time to time thruout nearly the whole year, but a few stems on each clump should always be left without cutting, as it sometimes dies

out if cut off too severely. I endeavored to get some seed of this plant, but the stems being constantly cut by the villagers make it very difficult to secure them. It seldom flowers. The roots, however, can be secured in any quantity." (*Suzuki.*)

**10525. PYRUS MALUS.****Apple.**

From Amassia, Turkey. Presented by Mr. H. Caramanian. Received March 16, 1904.

*Misket.* A variety of apple from this noted fruit region of Turkey. In letter of April 25, Mr. Caramanian remarks "that the Misket apple is the best variety of apple grown in this country. It has a crimson-red color when fully ripe. Its texture is fine and its flavor deliciously sweet. It has a keen, musky smell peculiar to itself, from which it takes its name, *misk* in Arabic meaning musk. In a room containing only one apple one may discover its presence by its smell. In exceptional cases individual specimens weigh as much as a pound, but are generally smaller. In such a town (Amassia), where a hundredweight of peaches costs from 20 to 25 cents, this apple is sometimes sold as high as 15 cents a pound. First-class apples are exported to Constantinople and the rest are used here."

**10526. PRUNUS DOMESTICA.****Plum.**

From Amassia, Turkey. Presented by Mr. H. Caramanian. Received March 16, 1904.

*Uryány.* A variety of plum from this noted fruit region of Turkey. In a letter of April 25, Mr. Caramanian says: "The Uryány plum is one of the choicest varieties of plums that I have ever seen here or in America. It is of a greenish yellow color when fully ripe. It is very fleshy and juicy, with an exceedingly thin skin. It tastes sweet and the stone is not very loose. As the orchardists do not know how to take care of the fruit trees, we find only a few perfect specimens on the trees."

**10527. PHASEOLUS RADIATUS.****Mung bean.**

From Patras, Greece. Received thru Mr. Socrates Xanthopoulos, March 17, 1904.

**10528 to 10530. ALNUS spp.**

From Yokohama, Japan. Presented by Mr. H. Suzuki, of the Yokohama Nursery Company. Received March 9, 1904.

**10528. ALNUS JAPONICA (?)****10530. ALNUS INCANA.****10529. ALNUS FIRMA.**

"Species of *Alnus* which are used by the Japanese as shade or shelter trees in the plantations of the Mitsunata paper plants, especially on hillside plantations. From the fact that the different species of *Alnus* produce root tubercles it is hoped that cultures can be secured of the micro-organisms which form them. It has been suggested by Mr. Swingle that the value of this *Alnus* as a shelter plant may be due largely to the nitrogen-collecting power of these tubercles. If this proves to be true, the cultivation of these species of *Alnus* may be of value for certain American cultures and especially in connection with the cultivation of the paper plant." (*Fairchild.*)

**10531. BETA CICLA.****Leaf beet.**

From Vomero, near Naples, Italy. Presented by Dr. Carl Sprenger, March 18, 1904.

Seeds for experiments in breeding with the sugar beet, to be carried on by Dr. C. O. Townsend and Mr. E. C. Rittue.

**10532. TRIFOLIUM PRATENSE.****Red clover.**

From Riga, Russia. Secured by Mr. E. A. Bessey from Mr. Heinrich Goegginger. Received March 21, 1904.

*Orel.*—The seed of the promising hairless clover No. 16, to which it is desired to call special attention, was obtained by Mr. Bessey through Mr. Goegginger, of Riga, and was produced on the estate of a German grower near Yeletz, in the eastern part

of the Orel government. The grower made a practise of saving his own seed, and hence this strain had been grown on the same estate for a number of years.

According to Mr. Goegginger, the government of Orel furnishes the best red clover seed obtainable in Russia. Its chief crops are winter rye and oats, and it is in rotation with these that the clover is grown. A small quantity of winter wheat is also grown.

This variety is distinguished by the dustlessness of its hay, due to almost complete absence of hairiness from all parts of the plant; by its heavy yields for the first crop; by its leafiness and the persistence of the basal leaves; by the succulence of the stems, which improves greatly the quality of the hay and reduces the waste due to woody, uneatable portions; by greater palatability than hay from domestic seed, and by the fact that it comes to proper maturity for harvesting from ten days to two weeks later than the ordinary American red clover.

Except in certain sections and for certain purposes this variety is not recommended for supplanting domestic red clover, but rather for supplementing the latter. See Bulletin No. 95 of the Bureau of Plant Industry entitled "A New Type of Red Clover." (*Charles J. Brand.*)

### 10533 and 10534. TRIFOLIUM PRATENSE.

**Red clover.**

From Riga, Russia. Secured by Mr. E. A. Bessey from Mr. Fr. Lassmann, Riga, Russia. Received March 21, 1904.

#### 10533.

From estate owned by Mr. Legsdin, Mohileff government, near Zhlobin.

#### 10534. *Courland.*

From estate of Mr. Sillin, Neuhoof, Courland government. A high-growing sort.

### 10535 to 10543. VICIA FABA.

**Broad bean.**

From Paris, France. Received thru Vilmorin-Andrieux & Co., March 21, 1904.

10535. Large, common field variety.

10539. *Windsor.*

10536. *Perfection.*

10540. *Green Windsor, or Genoa.*

10537. *Sevilla*, long-podded.

10541. *Small Green Julienne.*

10538. *Aguadulce*, extra long-podded.

10542. *Dwarf Early.*

10543. *Beck's Gem*, green.

### 10544.

**Bean.**

Originally from Spain. Received thru Mr. Rosendo Torras, of Brunswick, Ga., March 20, 1904.

Large white beans, slightly marked with red, varying in size. "Apparently different from any raised in this country." (*Torras.*)

### 10545. PHLEUM PRATENSE.

**Timothy.**

From Vienna, Austria. Received thru Dr. Victor Lieb, Court Gardener to Palace of Miramar, near Trieste, Austria, March 24, 1904.

### 10546. PHLEUM PRATENSE.

**Timothy.**

From Luleå, Sweden. Received thru Dr. Paul Hellström, March 24, 1904.

Grown at Persön Norrbattens Läu, Sweden, in 1901. Imported for the experiments in the breeding of timothy at Ithaca, N. Y.

### 10547 to 10550. PHLEUM spp.

From Vienna, Austria. Received thru Doctor Weinzierl, Councilor, Seed Control Station in Vienna, March 24, 1904.

Four species of Phleum from the experiment station in the Austrian Alps, known as the Sandling-Alp Station, which has won a wide reputation for its work on



forage crops and grasses in the Alps. These seeds were imported for breeding purposes, especially at the Cornell Experiment Station at Ithaca, N. Y.

10547. *PHLEUM MEDIUM*.

10549. *PHLEUM MICHELLII*.

10548. *PHLEUM ALPINUM*.

10550. *PHLEUM PRATENSE*.

**10551. (Undetermined.)**

From Arcelia, Guerrero, Mexico. Presented by Mr. Federico Chisolm. Received March 26, 1904.

Seeds of a "blue-flowered perennial 12 to 18 inches high. Flowers  $1\frac{1}{4}$  inches in diameter with yellow center. Ought to be used for bedding." (*Chisolm*.)

**10552. TRITICUM VULGARE.**

**Wheat.**

From Sitka, Alaska. Grown at the Alaska Agricultural Experiment Station by Prof. C. C. Georgeson, from S. P. I. No. 1341 (?). Presented to the Secretary of Agriculture (probably in 1900) by Professor Georgeson.

**10553 to 10556. CUCUMIS MELO.**

**Muskmelon.**

From Khojend, Russian Central Asia. Presented by Mr. E. Valneff to Mr. E. A. Bessey. Received March 28, 1904.

10553. *Ak Kuiruk*.

10555. *Parsildak*.

10554. *Bosraldi*.

10556. *Savnazik*.

**10557. BLIGHIA SAPIDA.**

**Akee.**

From Hog Island, near Nassau, West Indies. Presented by Mrs. Ralph Johnson. Received March 25, 1904.

"The fruit of the akee, especially the arillus lying immediately below the seeds, is reported to be a delicious vegetable and to resemble in taste bits of sweetbread when cooked with meats or omelets. Worthy of attention in the Subtropical Gardens in Florida and a possibility as a culture in Porto Rico." (*Fairchild*.)

**10558 to 10562. AMYGDALUS COMMUNIS.**

**Almond.**

Received thru Mr. J. W. Kerr, of Denton, Md., April 7, 1904

10558. *Castillet*.

Grown from S. P. I. No. 7133 (745).

10559. *Fabrica*.

Grown from S. P. I. No. 7135 (748).

10560. *Jordan*.

Grown from S. P. I. No. 7398 or No. 7401 (765 and 771).

10561. *Mollar*.

Grown from S. P. I. No. 7061 (740).

10562. *P'aneta*.

Grown from S. P. I. No. 7062 or No. 7134 (741 and 746).

**10563. TRIFOLIUM PRATENSE.**

**Red clover.**

From St. Petersburg, Russia. Secured by Mr. E. A. Bessey from Mr. G. Frick. Received April 11, 1904.

"Seed from Rjeschiza, Vitebsk government, in northwestern Russia. Should prove hardy." (*Bessey*.)

**10564. TRIFOLIUM PRATENSE.**

**Red clover.**

From St. Petersburg, Russia. Secured by Mr. E. A. Bessey from Mr. G. Frick. Received April 11, 1904.

"Seed from Ekaterinburg, in Siberia. Climate very cold in winter." (*Bessey*.)

**10565 to 10567. TRIFOLIUM spp.****Clover.**

From Russia. Presented by Prof. Charles E. Bessey, of the University of Nebraska. Received April 9, 1904.

Samples of clover seed collected by Professor Bessey in the summer of 1903, as follows:

**10565. TRIFOLIUM LUPINASTER.**

**Five-leaf clover.**

**10566. TRIFOLIUM sp.**

**10567. TRIFOLIUM HYBRIDUM.**

**Alsike.**

"Last summer I picked up several seeds of odd clovers which interested me very much, and I am wondering whether you may not wish to have them. One of these seeds is the five-foliolate clover, which was given me by the professor in the Agricultural Institute of Moscow. Another resembles the common red clover, but is evidently distinguished from that species. I collected these seeds in the heart of the Caucasus Mountains, at an altitude of probably 6,000 feet. The exact locality is Kazbek. Another resembles the alsike clover and was obtained from the same locality as the last." (*Bessey.*)

**10568. CYPERUS PAPYRUS.****Egyptian paper plant.**

From Washington, D. C. Presented by Mr. Peter Bisset, gardener of the Gardner Hubbard estate, "Twin Oaks," Washington, D. C. Received March 30, 1904.

**10569. FAGOPYRUM ESCULENTUM.****Buckwheat.**

From Walhonding, Ohio. Presented by the originator, Mr. Charles L. Lonsinger, thru Hon. J. W. Cassingham, M. C. Received April 1, 1904.

The variety is described by Mr. Lonsinger, in his letter of February 23, 1904, to Mr. Cassingham, as follows:

"It is a variety of my own creation and it withstands hot weather better than any other variety. To determine this, I have been sowing it to have it filling during heat of summer. In this I had an excellent test the summer of 1901, when it filled while the thermometer registered 95° to 102° F. in the shade day after day. My motive was to get a heat-resisting variety, in which I am pleased with my success. What I claim for it is that it will produce plump grains in hot weather, when other varieties fail and the Japanese varieties shrivel beside it; that it will produce more per acre than Silverhull or Japanese buckwheat, and will double the yield of either in hot weather. It can be sown in spring and midsummer, or in ordinary seasons two crops can be grown.

"It grows a stout plant and stands up better than Silverhull. In a test with Silverhull, 2 bushels each by weight, it produced one-half pound more flour than Silverhull and cakes were of a milder flavor than cakes from Silverhull. Six pounds in chaff (5 pounds, estimated, clean seed), selected in 1902, and sown in spring of 1903 on ordinary ground and shaded on one side by timber, produced 454 pounds, or 9 bushels 4 pounds. In 1902 I sowed it July 5 and it was ripe September 10."

**10570. SOLANUM TUBEROSUM.****Potato.**

From New York, N. Y. Presented by J. M. Thorburn & Co., seedsmen.

*Earliest of All*, a new seedling variety.

**10571 to 10575.**

From Arcelia, Guerrero, Mexico. Presented by Mr. Federico Chisolm. Received March 28, 1904.

A collection of bulbs and tubers, mostly unidentified.

**10576. COCHLEARIA ARMORACIA.****Horse-radish.**

From Edgewater Park, N. J. Presented by Mr. B. D. Shedaker. Received April 13, 1904.

*Maliner Kren.* Roots grown from S. P. I. No. 5761.

**10577. TRIFOLIUM PRATENSE.****Red clover.**

From Riga, Russia. Secured by Mr. E. A. Bessey from Mr. H. Goegginger.  
Received April 15, 1904.

"Red clover from Ufa, a dry region and cold in winter but having little snow. Seed rather poor, but for climatic regions ought to be valuable." (*Bessey.*)

**10578. PHLEUM PRATENSE.****Timothy.**

From Tokyo, Japan. Presented by Dr. Oscar Loew, of Komaha Agricultural Experiment Station. Received April 13, 1904.

"Sample of seed for Mr. Gilmore's experiments in the selection of better races of timothy at the State Agricultural Experiment Station, Ithaca, N. Y. Furnished Doctor Loew by the Tokyo Plant Seed Company. The origin of the seed is uncertain. Presumably, however, it was gathered in Japan." (*Fairchild.*)

**10579. EUTREMA HEDERAEFOLIA.****Dry-land wasabi.**

From Yokohama, Japan. Presented by Mr. H. Suzuki, of the Yokohama Nursery Company. Received April 18, 1904.

"This wasabi is said to grow well in ordinary dry soil in shade, but it being a native of the central part of Japan it might not resist your climate.

"It seems to be much easier of cultivation than the ordinary wasabi which we sent you before, tho it will take some years before it grows to the size of ordinary wasabi roots, but, as the leaves have a very good flavor, it is said to be eaten by the natives as one of the best kinds of spice. It is mostly growing wild and not in cultivation yet." (*Suzuki.*)

**10580 to 10582. PRUNUS CERASUS.****Cherry.**

From Moscow, Russia. Secured by Mr. E. A. Bessey, thru Mr. Emil Meyer, head gardener of the Agricultural Institute. Received April 18, 1904.

**10580. Vladimir.****10582. Vladimir.****10581. Roditelsky.****10583 to 10586.****Barley.**

From Svalöf, Sweden. Received thru the Allmänna Svenska Utsädesaktiebolaget (General Swedish Seed-Breeding Company), April 18, 1904.

"A collection of pedigreed brewing barleys, each one 100 per cent pure seed, which have been produced by selection at the Swedish Seed-Breeding Institute in Svalöf, under the direction of Dr. N. H. Nilsson. They are recommended for their remarkable uniformity of growth, their heavy yielding character, and the low nitrogen content of their kernels. Belonging to the two-rowed type of barley, they require to be kept longer on the growing floor or in the growing drum of the malt house, but in the opinion of European experts these pedigreed pure races of barley grow more uniformly and make a better quality of beer than the ordinary types of barley grown in America, which are all of mixed races. The different sorts represent practically pure types of Doctor Nilsson's various barley races and translations of his descriptions are given herewith." (*Fairchild.*)

**10583. HORDEUM DISTICHUM NUTANS.**

*Princess.* 0105. Head relatively thick and broad, with somewhat separated kernels and spreading awns. Before ripening, yellowish. Kernel finely built, medium in size, full, on both sides unusually finely wrinkled, yellow, with a slightly whitish tint. Plant strong, of medium height, thickly leaved, very well stooled, with strong, relatively stiff stems; leaves somewhat high on the stem. Medium late, ripening a few days later than the *Chevalier*. Extraordinarily productive, especially suited for mild, moderately strong, not too heavy soils. As a brewing barley, especially high prized. Belonging to Doctor Nilsson's Alpha group.

**10584. HORDEUM DISTICHUM NUTANS.**

*Chevalier II.* 0403. Head long, small, and loose, with kernels not divergent; never reddish colored. Kernel medium sized, full, and especially finely

**10583 to 10586—Continued.**

formed, finely wrinkled, and strongly yellow colored. Plant medium strong; leaves abundant, but placed low on the plants. Not very abundantly stooled, with somewhat weak culms. On account of this latter habit a variety especially suited to warm, light, not very heavy soils. Productivity, medium. Ripening time, not very early, but still a few days before the *Prinsess*. As a brewing sort, in suitable locations, much esteemed. Belonging to Doctor Nilsson's Alpha group.

**10585. HORDEUM DISTICHUM NUTANS.**

*Hannchen*. Head unusually thick for nodding barley; kernels not divergent and therefore the head is more compact, narrower, small, standing horizontally on the straight culm; light yellow in color before ripening. The awns are often thrown off. Kernel small, especially fine in form and color; light yellow, very finely wrinkled. Plant of peculiar habit, late starting into growth, but nevertheless very heavily stooling with several equally strong, graceful, but hard and very stiff culms which have few leaves, and these are near the ground. Ripens very early, little later than the *Swansneck*. Productiveness very good. Especially adapted for light, warm soils, and above all for high altitudes. Can stand well heavy manuring. As a brewing barley well qualified. It belongs to Doctor Nilsson's Alpha group.

**10586. HORDEUM DISTICHUM ERECTUM.**

*Primus*. 0706. Head rather long and relatively small, somewhat loosely built, with awns slightly spreading. Head borne on the culm, which is bent above almost horizontally. Kernel good, medium large, especially finely formed and full, finely wrinkled, rich yellow. Plant strong, moderately stooled, with upright very strong culms. Ripens early, scarcely perceptibly later in maturing (a day or so) than the *Hannchen*. Productiveness especially good. Quite certainly, so far as quality is concerned, the highest grade yet known among the "Imperial" barleys. Especially suited to heavy, cold loams and clay soils, such as are to be found in middle Sweden. Bred in the region where the sort already—thanks to its strong culms and earliness—has opened quite new regions for the culture of brewing barley.

**10587. JUGLANS hyb.****Walnut.**

From Santa Ana, Cal. Received thru Mr. P. H. Dorsett, of Chico, Cal., April 18, 1904.

"I am sending you a tree which, as near as can at this time be determined, is a hybrid between the southern California black walnut and the native live oak. Native black-walnut seeds were planted as stocks, and these trees appeared in the rows. Walnut buds 'take' on these as readily as on the native stock, or even more readily." (*Dorsett*.)

**10588. LOLIUM PERENNE.****Rye-grass.**

From The Hague, Holland. Presented by Mr. Berendsen, hortulanus of the Royal Zoological-Botanical Society. Received April 17, 1904.

*Westerwoldicum*. "A variety of rye-grass originated in the north of Holland, which has the reputation of being much superior in rapidity of growth and quantity of hay cut to that grown from the Scotch variety, which is sometimes planted here." (*Berendsen*.)

**10589. PHLEUM PRATENSE.****Timothy.**

From The Hague, Holland. Presented by Mr. Berendsen, hortulanus of the Royal Zoological-Botanical Society. Received April 17, 1904.

"According to Mr. Berendsen the timothy seed used in Holland is usually imported from Scotland. This may be of Scotch origin. Imported for the timothy experiments conducted at the Cornell University Agricultural Experiment Station, Ithaca, N. Y." (*Fairchild*.)



**10590 to 10597. DIOSCOREA spp. and XANTHOSOMA spp.****Yam and yautia.**

From San Juan, P. R. Presented by Miss Jenny H. Ericson. Received April 19, 1904.

A collection of Porto Rico yams and yautias not identified botanically. Yam culture in the West Indies is one of the most profitable small-plant industries. The botanical nomenclature of the various species is an important question.

**10598 to 10614.**

From Askhabad, Trans-Caspian territory, Turkestan. Secured by E. A. Bessey from Mr. A. Bashmakoff. Received April 22, 1904.

A collection of seeds and cuttings as follows:

**10598 to 10609. VITIS VINIFERA.****Grape.****10598. Kara Kischmisch, Shiburgani, or Black Kishmish.**

Berry elongated oval, violet black, seedless, small, very sweet, producing a good red wine and also best *Black Kishmish* raisins; ripens in August.

**10599. Hussein Kara, or Black Huseini.**

Differs from No. 10604 in its black color; ripens in July.

**10600. Halili ak, or White Khalili.**

Berry oval, conical, small, green covered with black dots, hard, of average taste; one of the earliest Asiatic sorts; ripens about the middle of June.

**10601. Daria.**

Berry spherical, or sometimes slightly elongated. Dark carmine with yellowish spots, sweet; a very early sort; ripens at Bairam Ali about the middle of June.

**10602. Bagishty.**

Berry large, spherical, very sweet, golden when ripe. This sort is good for table use and for jelly, etc.; is also a wine variety; ripens early in September.

**10603. Taifi.**

Berry elongated oval, obtuse at the apex, greenish color covered with dark carmine streaks and bloom, sweet; flesh very compact; when hung from the ceiling of a cool room it keeps the whole winter; has no superior for preserves and marmalade; ripens the middle of September.

**10604. Hussein ak, or White Huseini.**

Berry white, at the time of ripening wax-colored, long, very sweet and juicy; the best table sort; ripens in June and July. (See No. 10290.)

**10605. Sahibi rosa, or Rosa Sakhabi. (See No. 10305.)****10606. Schokar ak, or White Shokar.****10607. Schiburchani, or Shiburkhani.****10608. Wassarga, or Vasarga.**

Berry large, compressed, spherical, with one or two furrows at the stalk, at maturity golden color, giving a good table wine; also good for making raisins.

**10609. Maska.**

Berry white, spherical, sometimes elongated, very large, reaching the size of a plum; used for the preparation of the best sorts of raisins; also for preserves; one of the most showy of the Central Asiatic sorts; ripens in July.

**10610. PHASEOLUS RADIATUS.****Mung bean.**

*Masch.*

**10598 to 10614—Continued.**

- 10611.** TRITICUM POLONICUM (?). Wheat.  
*Red Winter; unirrigated.*
- 10612.** ANDROPOGON SORGHUM (?). Sorghum.  
*Djugara.*
- 10613.** CHAETOCLOA ITALICA. Millet.  
*Kunach, or Kunak.*
- 10614.** KOSTELETZKYA PENTACARPA.  
*Kanaf.*

**10615 to 10620. PERSEA GRATISSIMA. Avocado.**

From Honolulu, Hawaii. Presented by Mr. Donald MacIntyre, Moanalua Gardens, Honolulu. Received April 22, 1904.

**10615.** *Large Purple.*

Flesh thick, of good, nutty flavor, yellow, and fiberless; seed comparatively small, about one-fourth of fruit; crop medium; pear-shaped; length and diameter over standard (4 by 6 inches). (No. 1.)

**10616.** *Small Green.*

Flesh not thick and with no nutty flavor, but quite fiberless and rather sweetish; fruit roundish, length in diameter about  $4\frac{1}{2}$  inches; late, heavy bearer, constant cropper. (No. 4.)

**10617.** *Large Green Round.*

Flavor good but not nutty; length and diameter about  $5\frac{1}{2}$  by 5 inches; crop uncertain. (No. 3.)

**10618.** *Large Green.*

Best of all in flavor; flesh smooth, firm, and fiberless; seed small; decidedly bottle-necked; length 7 inches, diameter about 4 inches; late cropper, but crop fairly constant; ripening about middle of June; seed small. (No. 6.)

**10619.** *Small Green.*

A very early variety, not of best flavor, with fiberless fruit; seed large; not decidedly pear-shaped; good grower and constant cropper; ripening about May 25; earliest variety in Honolulu. (No. 5.)

**10620.** *Large Green.*

Flavor decidedly nutty and good; flesh yellow, fiberless; length and diameter of fruit about standard; crop light, ripening about the middle of June. (No. 2.)

**10621. PHLEUM PRATENSE. Timothy.**

From Södermanland, Sweden. Presented by Prof. Jakob Eriksson, Experimentalfältet Albano, Stockholm. Received April 20, 1904.

"Sample of seed from crop of 1903 of Swedish timothy for the selection experiments carried on by Mr. John W. Gilmore at the Cornell University Agricultural Experiment Station." (*Fairchild.*)

**10622. ARACHIS HYPOGAEA. Peanut.**

From Japan. Presented by Prof. C. C. Georgeson, director of the Alaska Agricultural Experiment Station, Sitka, Alaska. Received April 18, 1904.

**10623. CONVULVULUS sp. Japanese morning-glory.**

From Japan. Presented by Prof. C. C. Georgeson, director of the Alaska Agricultural Experiment Station, Sitka, Alaska. Received April 18, 1904.

Seed of Japanese morning-glories, which are known as being the most beautiful varieties in the world.

**10624 to 10627.**

From Moscow, Russia. Received from Immer & Sons, seedsmen, thru Mr. E. A. Bessey, April 23, 1904.

Seeds, as follows:

**10624. AVENA SATIVA.****Oat.**

*Belyak.* A race of oat bred from the *Svitoloff* oat and especially valuable in regions of limited rainfall, where it gives large crops when other sorts fail.

**10625. PANICUM MILLIACEUM.****Broom-corn millet.**

*Orenburger.* A low sort, especially bred for large yield in dry regions by the owner of a large estate. Not on the market. Obtained by Immer & Sons from the breeder as a personal favor to them.

**10626. TRIFOLIUM PRATENSE.****Red clover.**

Red-clover seed from an estate at Kostroma, 150 miles north of Moscow, a region of very cold winters, almost at the edge of clover-seed production.

**10627. TRIFOLIUM PRATENSE.****Red clover.**

Red-clover seed from an estate in the northern part of Simbirsk government, a region of cold winters with little snow.

**10628. BETA VULGARIS.****Beet.**

From Catania, Sicily. Received thru Mr. Alwin Berger, La Mortola, Ventimiglia, Italy. Received April 21, 1904.

"Sample of beet seed from the director of the Royal Botanic Gardens in Catania for the breeding experiments of Dr. C. O. Townsend and Mr. E. C. Rittue, of this Department." (*Fairchild.*)

**10629 and 10630. BETA MARITIMA.**

From Sicily. Received thru Dr. Carl Sprenger, Vomero, near Naples, Italy, April 25, 1904.

"Sample of seed from two different localities in Sicily for the breeding experiments of Doctor Townsend and Mr. Rittue, of this Department. No. 10629 was marked 'I' and No. 10630 was marked 'II.' No further information." (*Fairchild.*)

**10631. CAESALPINIA BREVIFOLIA.****Algarobillo.**

From New York. Received thru A. Klipstein & Co., 122 Pearl street, New York, N. Y., March 23, 1904.

Pods of the tannin shrub "algarobillo." This is a small tree found growing wild on the foothills of the Andes in Chile. It is said to occur in the driest portions of the arid coast and to produce large quantities of pods very rich in tannin. According to Dr. Louis E. Levi, of the Pfister & Vogel Leather Company, of Milwaukee, Wis., "it is an excellent tanning material, but gives a very light yellow color to the leather, which is partially objectionable, yet I think in mixtures with quebracho, or the like, it would answer the purpose of the tanner. The same contains about 50 per cent of tannin. The tannin material has as yet not been used very much in the United States on account of its objectionable color and easily fermentable properties when in solution. I think this is not very objectionable, as an experienced tanner would be able to get around this fault."

Mr. C. A. Spencer, importer and dealer in tanning materials, 183 Essex street, Boston, Mass., says: "Regarding the value of this material as a tanning agent, we may say its use for the purpose is very limited. While it is very strong in tannin it does not have the filling properties that make it a desirable material for the manufacture of leather, altho there is a limited quantity used in Great Britain and Europe, but from the best information we have been able to obtain, there are only about 1,000 tons yearly of this article available. As compared with other tanning materials grown in the United States, and with quebracho extract, gambier, etc., the price is somewhat higher, which no doubt accounts, to a certain extent, for its limited consumption. We formerly imported this article regularly, but the demand for it has grown much less during the past two years, and there are now practically but

two consumers in this country of any size who are using the article in the manufacture of what they call gambier extract."

Mr. William H. Krug, of A. Klipstein & Co., 122 Pearl street, New York, N. Y., says: "We are unable to give you a comparative statement as to the value of this material as compared with the other tanning materials you mention in your letter, as it has been only very recently introduced in this country and has not received more than a very limited application. We believe with you that algarobillo can no doubt be successfully grown in some regions of the United States, and with the growing scarcity of domestic tanning materials, its introduction should prove of considerable interest."

### 10632. PERILLA OCYMOIDES.

**Perilla.**

From Yokohama, Japan. Received thru the Yokohama Nursery Company April 25, 1904.

"Sent to replace the former quantity imported (see No. 9892), which failed to germinate." (*Fairchild.*)

### 10633. QUERCUS CORNEA.

**Oak.**

From Hongkong, China. Presented by Mr. S. T. Dunn, superintendent of the Botanical and Afforestation Department. Received April 27, 1904.

"Acorns of an evergreen oak, said to be a very showy ornamental as grown on the island of Hongkong, but interesting particularly as bearing acorns as hard shelled as the nuts of the American hickory and which contain a kernel almost as sweet as the sweetest Spanish chestnut. These acorns are sold in the markets of Canton and Hongkong by the ton and are keenly relished not only by the Japanese but by Europeans. Altho difficult to predict how hardy this species will be in America, it is worthy of trial in all regions where citrus fruits can be grown." (*Fairchild.*)

### 10634. STACHYS SIEBOLDII.

**Chinese artichoke.**

From London, England. Presented by Mrs. Theo. K. Gibbs, Bethshan, Gibbs avenue, Newport, R. I. Received April 29, 1904.

"These tubers are considered a great delicacy in France, where they are served in the best restaurants and command a good price. They are said to be more delicate than potatoes and are certainly worthy of a permanent place among the new vegetables of this country. They should be planted in rows a foot apart and 6 to 9 inches in the row as soon as all danger from frost is past. They mature their tubers in October, when they may be dug and stored in sand or earth in a cool place. They should be prepared by boiling, steaming, or roasting, and may be served either dry or with melted butter. Fried with salad oil they are considered to be especially delicious. Purchased by Mrs. Gibbs from Peter Barr, of London." (*Fairchild.*)

### 10635. PENTZIA VIRGATA.

**Karoobosch.**

From Ward No. 3, Jansenville, South Africa. Received thru Messrs. Lathrop and Fairchild by arrangement with Dr. Charles P. Lounsbury and Mr. A. J. Davison, of the Department of Agriculture, Cape Town, South Africa, May 2, 1904.

"This fodder composite is considered of such great value by the sheep and cattle men of Cape Colony that a separate circular regarding it is being prepared. It is a low-growing, spreading bush which layers naturally when the tips of its branches arch over and touch the ground. In the eastern provinces of Cape Colony, where the rains occur in summer but where long, severe droughts are frequent, this *Pentzia* is one of the most valuable of all the Karroo plants for fodder purposes. It is especially good for sheep and goats, which eat it down almost to the ground. Tho tested unsuccessfully in Australia, the plant is of such great value that it deserves a thoro trial in the warmest parts of America and should be used in experiments on resuscitation of the barren island ranges of Hawaii." (*Fairchild.*)

### 10636 to 10669. MANGIFERA INDICA.

**Mango.**

From Seharunpur, India. Presented by Mr. W. Gollan, superintendent of the Government Botanical Garden, to replace plants that died in transit last year. Received April 26, 1904.



**10636 to 10639—Continued.**

Plants as follows (notes by Mr. Gollan):

**10636.** *Arbuthnot.*

Something like *Bombay Yellow*, but a smaller fruit.

**10637.** *Brindabani.*

Medium-sized, green-colored fruit. Quality only fair.

**10638.** *Bombay Green.*

Something like *Bombay Yellow*, but fruit green when ripe.

**10639.** *Bombay Yellow.*

The best mango here. Fruit of medium size and yellowish when ripe.

**10640.** *Gopal Bhog.*

Medium-sized fruit. Keeps well. Flavor good.

**10641.** *Khapariah.*

A longish, hooked, pointed fruit. Color yellow, shaded red.

**10642.** *Salibunda.*

A large fruit. Subacid flavor. Color greenish yellow.

**10643.** *Strawberry.*

A longish, hooked, pointed fruit. Flavor good.

**10644.** *Calcuttia Amin.*

A long fruit, hooked, pointed. Has a very thin stone. Flavor good.

**10645.** *Faizan.*

A large, long fruit. Brownish green. Flavor good.

**10646.** *Fijri Long.*

A large, longish fruit. Ripens late. Dark green when ripe.

**10647.** *Fijri Round.*

Similar to above but of roundish shape.

**10648.** *Hathi Jhul.*

A very large fruit. Flavor good.

**10649.** *Kachmahua.*

A small fruit, but of good flavor.

**10650.** *Kakaria.*

A large, long fruit. Dark green. Good flavor.

**10651.** *Langra Hardoi.*

A medium-sized fruit. Ripens late. Pale yellow flesh. Very rich.

**10652.** *Surkha.*

A stringy kind, but of very good flavor.

**10653.** *Tamancha.*

A large fruit. Greenish yellow. Flavor good.

**10654.** *Bhadauria.*

A small, dark-green fruit. Ripens in September–October.

**10655.** *Punia.*

A medium-sized, stringy kind. Flavor very good.

**10656.** *Kistaphal.*

A large fruit. Flesh highly colored and of good flavor.

**10636 to 10639—Continued.****10657. *Madras.***

A small fruit. Stringy but of fine flavor.

**10658. *Romani.***

A medium-sized fruit. Subacid, of very fine flavor.

**10659. *Nucka.***

A long, hooked, pointed fruit. Slightly stringy, but flavor good.

**10660. *Chickna.***

A medium-sized fruit. Light yellow, of good flavor.

**10661. *Davy's Favorite.***

A long, thin fruit. Yellow, shaded red.

**10662. *Gola.***

A large, round, yellow fruit, of very good flavor.

**10663. *Pyasee.***

A medium-sized fruit, of subacid flavor. Good.

**10664. *Langra Large.***

Similar to *Langra Hardoi*, but larger. Ripens late in August.

**10665. *Sundershah.***

A long fruit. Stringy. Flavor peculiar and only liked by some people.

**10666. *Kala.***

A longish-shaped fruit. Pale green. Free of stringiness. Good.

**10667. *Sanduriah.***

A small, long-shaped fruit. Stringy, but of fine flavor.

**10668. *Naji Hahadi Amin.***

A medium-sized, dark-green fruit. Ripens late.

**10669. *Sharhati Black.***

A large, round fruit. Dark green. Of very good flavor.

**10670 to 10673. NEPHELIUM LITCHI and NEPHELIUM LONGANA.****Litchi and longan.**

From Hing-hua, Fuhkien, China. Received thru Rev. W. N. Brewster, Methodist Episcopal missionary, in the autumn of 1903.

Mr. Brewster says: "They were grafted probably some time in the year 1902. The trees were not more than two years old, I think. With regard to the culture, they are not propagated from the seed, but a ball of earth is tied around a joint of a branch, and when it throws roots out into this ball the branch is cut off on the side next to the trunk, and the little tree is planted. The trees are fertilized by night soil about the time that they are blossoming and also later when the fruits begin to form. When the leaves are too thick, as they generally are in the spring, there is severe pruning done. After the buds are out, these are also thinned; after the blossoms begin to form into fruit they are thinned again. This is very important in order to make a perfect fruit. They must be kept entirely free from frost, and should be planted in a deep soil, i. e., the soil should be soft down many feet below the surface. The *litchi* blossoms early and matures the latter part of July. It is shaped like a strawberry and has the strawberry color and appearance, only the skin is rough and thick and brittle. The seed of the grafted variety is sharp pointed and small, and shriveled up so that the meat is much more abundant than in the ungrafted variety. The meat is white and juicy and a little tart. The *longan* (another species of the same genus) ripens in September. It is round and smooth. It is sweeter than the *litchi*, but the meat has very much the same appearance.

"The other fruit which I brought, the *longan*, is not a variety of the *litchi*, but a

distinct fruit, different in color and taste, and matures several weeks later in the season. Many people think it is equal to, and some think it far superior to, the *litchi*. It is cultivated in the same way as the latter, so far as I have observed."

**10674. HORDEUM TETRASTICHUM.****Four-row barley.**

From Chicago, Ill. Received thru Wahl-Henius Institute of Fermentology, May 3, 1904.

"Minnesota barley which, according to Dr. Robert Wahl's analysis, contains the unusual percentage of 15 to 16 per cent of protein. Doctor Wahl believes that this variety should be experimented with in connection with the testing of low-protein, two-rowed barleys. It is also of interest in connection with the experiments of Mr. H. M. Cottrell, Odebolt, Iowa, on high nitrogen feeding barleys." (Fairchild.)

**10675 to 10723.**

From Teneriffe, Canary Islands. Received thru Hon. Solomon Berliner, United States consul at Teneriffe, May 4, 1904. Transmitted thru the Secretary of State.

A collection of small samples of seeds, many of them indigenous to the Canary Islands, as follows:

- |  |                                       |
|--|---------------------------------------|
| 10675. ASPHODELUS RAMOSUS.             | 10701. GONOSPERMUM REVOLUTUM.         |
| 10676. ARTEMISIA ARGENTEA.             | 10702. HYPERICUM FLORIBUNDUM.         |
| 10677. BOSEA YERVAMORA.                | 10703. LAVANDULA ABROTANOIDES.        |
| 10678. BYSTROPOGON ORIGANIFOLIUS.      | 10704. LEUCOPHAE CANDIDISSIMA.        |
| 10679. CENTAUREA CALCITRAPA.           | 10705. LOTUS CANARIENSIS FLO-RIBUNDA. |
| 10680. CINERARIA POPULIFOLIA ARGENTEA. | 10706. MESEMBRYANTHEMUM CRYSTALLINUM. |
| 10681. CHRYSANTHEMUM FRUTESCENS.       | 10707. OENOTHERA ROSEA.               |
| 10682. CONVULVULUS ALTHAE- OIDES.      | 10708. PARIETARIA ARBOREA.            |
| 10683. CONVULVULUS FLORIDUS.           | 10709. PERIPLOCA LAEVIGATA.           |
| 10684. CYTISUS GLABRATUS.              | 10710. PINUS CANARIENSIS.             |
| 10685. CYTISUS PALMENSIS.              | 10711. PLOCAMA PENDULA.               |
| 10686. DELPHINIUM STAPHIS- AGRIA.      | 10712. PSORALEA BITUMINOSA.           |
| 10687. DIGITALIS CANARIENSIS.          | 10713. RANUNCULUS CANARIEN- SIS.      |
| 10688. DRACAENA DRACO.                 | 10714. RHAMNUS CRENULATA.             |
| 10689. DRACUNCULUS CANARIEN- SIS.      | 10715. RHODOCISTUS BERTHELO- TIANUS.  |
| 10690. ECHIU M FORMOSUM.               | 10716. RUBIA FRUTICOSA.               |
| 10691. ECHIU M SIMPLEX.                | 10717. RUMEX LUNARIA.                 |
| 10692. ECHIU M STRICTUM.               | 10718. SEMPERVIVU M TABULAE- FORME.   |
| 10693. EUPHORBIA CANARIENSIS.          | 10719. STATICE BRASSICAEFOLIA.        |
| 10694. EUPHORBIA REGIS-JUBAE.          | 10720. STATICE PECTINATA.             |
| 10695. FERULA LINKII.                  | 10721. TAMUS EDULIS.                  |
| 10696. GALILEA JUNCEA.                 | 10722. TEUCRIU M HYSSOPIFOLI- UM.     |
| 10697. GENISTA CANARIENSIS.            | 10723. VERBENA BONARIENSIS.           |
| 10698. GENISTA MONOSPERMA.             |                                       |
| 10699. GLADIOLUS SEGETUM.              |                                       |
| 10700. GONOSPERMUM FRUTICO- SUM.       |                                       |

**10724. VICIA FABA.****Horse bean.**

From Cairo, Egypt. Received thru Mr. George P. Foaden, secretary of the Khedivial Agricultural Society.

"Roots of this forage plant collected shortly before harvest time, dried in the shade, and mailed in tin mailing cases. For Doctor Moore's experiments in the isolation of the micro-organism which causes the tubercles." (*Fairchild.*)

**10725. MEDICAGO ORBICULARIS.**

From Algeria. Secured by Mr. Thomas H. Kearney in 1902. Turned over to this office by Mr. C. S. Scofield on May 5, 1904, to be numbered and sent to the Plant Introduction Garden at Chico, Cal., for propagation.

**10726. PHLEUM PRATENSE.****Timothy.**

From Helsingfors, Finland. Received thru Mr. C. T. Ward, Finnish Horticultural Society, May 6, 1904.

Sample of timothy seed grown in Finland.

**10727 to 10750.**

From Monte, Grand Canary. Presented by Mr. Alaricus Delmard. Received May 6, 1904.

A collection of small samples of seeds of interesting plants growing in the Canary Islands, as follows:

**10727. ADENOCARPUS FRANKENIODES.**

**10739. LEUCOPHAE CANDIDISSIMA.**

**10728. BOSEA YERVAMORA.**

**10740. MESEMBRYANTHEMUM CRYSTALLINUM.**

**10729. BYSTROPOGON ORIGANIFOLIUS.**

**10741. OENOTHERA ROSEA.**

**10730. CEDRONELLA CANARIENSIS.**

**10742. PARIETARIA ARBOREA.**

**10731. CHRYSANTHEMUM FRUTESCENS.**

**10743. PERIPLOCA LAEVIGATA.**

**10732. CLETHRA ARBOREA.**

**10744. RHODOCISTUS BERTHELOTTIANUS.**

**10733. ISOLEPIS CANARIENSIS.**

**10745. RUBIA FRUTICOSA.**

**10734. CYTISUS PALMENSIS.**

**10746. STATICE PECTINATA.**

**10735. DELPHINIUM STAPHISAGRIA.**

**10747. TAMUS EDULIS.**

**10736. DIGITALIS CANARIENSIS.**

**10748. TEUCRIUM HYSSOPIFOLIUM.**

**10737. GALILEA JUNCEA.**

**10749. TRIxAGO VERSICOLOR.**

**10738. GONOSPERMUM REVOLUTUM.**

**10750. VERBENA BONARIENSIS.**

**10751. FRAGARIA sp.****Strawberry.**

From Garrettsville, Ohio. Presented by the originator, Mr. George J. Streator, for testing, on condition that no distribution is made. Received May 9, 1904.

*Cardinal.*

**10752. ERVUM LENS.****Lentil.**

From Cairo, Egypt. Received thru Mr. George P. Foaden, secretary of the Khedivial Agricultural Society, May 6, 1904.

*Saida.* "A variety of an important crop grown extensively in Upper Egypt." (*Fairchild.*)



**10753. VICIA FABA.****Horse bean.**

From Valetta, Malta. Received thru Dr. J. Borg, San Antonio Gardens, May 12, 1904.

Roots of a horse bean from the island of Malta, which, according to Doctor Borg, were from plants already in pod. Doctor Borg remarks that the nodules are not so plump as they were when the plant was just beginning to set fruit, and that the roots came from the best bean-producing lands in Malta, lands entirely free from orobanche, which is a bad weed in the bean fields and their worst enemy. "But for its ravages the bean would be the most profitable crop for agriculture." (Borg.)

**10754. HORDEUM TETRASTICHUM.****Four-row barley.**

Originally from the Agricultural Experiment Station at Madison, Wis. Received thru the Wahl-Henius Institute of Fermentology, Chicago, Ill., May 9, 1904.

Oderbrucker. "A variety of barley which, upon analysis, proves to contain 15 per cent of protein matter. Dr. Robert Wahl considers it essential that this type of barley with high nitrogen content be experimented with for beer-making purposes, and Mr. H. M. Cottrell, of Odebolt, Iowa, is interested in it as a type especially adapted for feeding purposes." (Fairchild.)

**10755 and 10756. CAPSICUM ANNUM.****Paprika pepper.**

From Budapest, Hungary. Received thru Hon. Frank D. Chester, United States consul at Budapest, May 4, 1904.

Seeds of the two varieties of *paprika* which were requested by the Botanical Drug Company, of Bridgeport, Ala.

**10755.** *Szeged rose.*

**10756.** *Hungarian.*

From Szeged, Hungary.

From near Debreczen, Hungary.

"It is worthy of note that the best varieties of paprika are not imported into this country and that the highest priced, called 'Edelsüss,' brings 6 crowns a pound, while that generally imported into America is quoted at 1.65 crowns. There would seem to be a chance for the paprika industry in America." (Fairchild.)

**10757 to 10958. PHOENIX DACTYLIFERA.****Date.**

From Biskra, Algeria. Purchased from Monsieur Colombo by correspondence conducted by Mr. W. T. Swingle. Plants paid for by Mr. E. A. Bessey, who superintended the packing and shipping to the United States. Received May 17, 1904.

**10757 to 10832.** *Deglet Noor.* From Ourlana oasis.

Among these palms there may be as many as four palms that are not *Deglet Noors*, since four lost their numbers and were confused with this lot of *Deglet Noors*. Nos. 10841, 10883, 10902, and 10904 are doubtful, and are probably *Deglet Noors*. The varieties of these four misplaced suckers are as follows: *Tezerharit*, *Abd en noor*, *Sokria*, and *Iteema*. These varieties are mostly quite unlike the *Deglet Noor* and can probably be recognized when the offshoots get of some size.

**10833.** *Deglet Beida.* From Ourlana oasis.

**10834.** *Deglet Beida.* From Ourlana oasis.

**10835.** *Deglet Beida.* From Ourlana oasis.

**10836.** *Tenaseen.* From Ourlana oasis.

**10837.** *Tenaseen.* From Ourlana oasis.

**10838.** *Tenaseen.* From Ourlana oasis.

**10839.** *Tezerharit.* From Ourlana oasis.

**10840.** *Tezerharit.* From Ourlana oasis.

**10841.** (No label.)

## 10757 to 10958—Continued.

- 10842. *Oreloo*. From Ourlana oasis.
- 10843. *Oreloo*. From Ourlana oasis.
- 10844. *Oreloo*. From Ourlana oasis.
- 10845. *Sayba Boo Dra*. From Ourlana oasis.
- 10846. *Sayba Boo Dra*. From Ourlana oasis.
- 10847. *Sayba Boo Dra*. From Ourlana oasis.
- 10848. *Sayba Boo Dra*. From Ourlana oasis.
- 10849. *Tafazweent*. From Ourlana oasis.
- 10850. *Tafazweent*. From Ourlana oasis.
- 10851. *Tafazweent*. From Ourlana oasis.
- 10852. *Taoorkhet*. From Ourlana oasis.
- 10853. *Taoorkhet*. From Ourlana oasis.
- 10854. *Taoorkhet*. From Ourlana oasis.
- 10855. *Taty*. From Ourlana oasis.
- 10856. *Taty*. From Ourlana oasis.
- 10857. *Taty*. From Ourlana oasis.
- 10858. *Timjoohert*. From Ourlana oasis.
- 10859. *Timjoohert*. From Ourlana oasis.
- 10860. *Timjoohert*. From Ourlana oasis.
- 10861. *Temkhookh*. From Ourlana oasis.
- 10862. *Temkhookh*. From Ourlana oasis.
- 10863. *Temkhookh*. From Ourlana oasis.
- 10864. *Takadet*. From Ourlana oasis.
- 10865. *Takadet*. From Ourlana oasis.
- 10866. *Takadet*. From Ourlana oasis.
- 10867. *Taremoont*. From Ourlana oasis.
- 10868. *Taremoont*. From Ourlana oasis.
- 10869. *Taremoont*. From Ourlana oasis.
- 10870. *Nakhelet Mzian*. From Ourlana oasis.
- 10871. *Nakhelet Mzian*. From Ourlana oasis.
- 10872. *Nakhelet Mzian*. From Ourlana oasis.
- 10873. *Adebet et Teen*. From Ourlana oasis.
- 10874. *Adebet et Teen*. From Ourlana oasis.
- 10875. *Adebet et Teen*. From Ourlana oasis.
- 10876. *Makelet el Leef*. From Ourlana oasis.
- 10877. *Makelet el Leef*. From Ourlana oasis.
- 10878. *Makelet el Leef*. From Ourlana oasis.
- 10879. *Nakhelet Feraoon*. From Ourlana oasis.
- 10880. *Nakhelet Feraoon*. From Ourlana oasis.
- 10881. *Nakhelet Feraoon*. From Ourlana oasis.
- 10882. *Abd en Noor*. From Ourlana oasis.
- 10883. (No label.)
- 10884. *Abd en Noor*. From Ourlana oasis.
- 10885. *Horra*. From Fougala oasis.

## 10757 to 10958—Continued.

- 10886. *Horra*. From Fougala oasis.
- 10887. *Horra*. From Fougala oasis.
- 10888. *Rhazee*. From Fougala oasis.
- 10889. *Rhazee*. From Fougala oasis.
- 10890. *Rhazee*. From Fougala oasis.
- 10891. *Toory*. From Fougala oasis.
- 10892. *Toory*. From Fougala oasis.
- 10893. *Toory*. From Fougala oasis.
- 10894. *Oogbales*. From Fougala oasis.
- 10895. *Oogbales*. From Fougala oasis.
- 10896. *Oogbales*. From Fougala oasis.
- 10897. *Sokria*. From Biskra oasis.
- 10898. *Boo Halas*. From Biskra oasis.
- 10899. *Sokria*. From Biskra oasis.
- 10900. *Sokria*. From Biskra oasis.
- 10901. *Sokria*. From Biskra oasis.
- 10902. (No label.)
- 10903. *Iteema*. From Biskra oasis.
- 10904. (No label.)
- 10905. *M<sup>c</sup> Kentishee Degla*. From Biskra oasis.
- 10906. *M<sup>c</sup> Kentishee Degla*. From Biskra oasis.
- 10907. *M<sup>c</sup> Kentishee Degla*. From Biskra oasis.
- 10908. *Retbet Hafsia*. From Biskra oasis.
- 10909. *Retbet Hafsia*. From Biskra oasis.
- 10910. *Getara*. From Biskra oasis.
- 10911. *Getara*. From Biskra oasis.
- 10912. *Zoozia*. From Biskra oasis.
- 10913. *Retbet Regaya*. From Biskra oasis.
- 10914. *Retbet Regaya*. From Biskra oasis.
- 10915. *Retbet Regaya*. From Biskra oasis.
- 10916. *Mnooar* (male). From Filiache oasis.
- 10917. *Retbet Haloo*. From Filiache oasis.
- 10918. *Retbet Haloo*. From Filiache oasis.
- 10919. *Retbet Haloo*. From Filiache oasis.
- 10920. *Halooa*. From Biskra oasis.
- 10921. *Halooa*. From Biskra oasis.
- 10922. *Halooa*. From Biskra oasis.
- 10923. *Zerza*. From Biskra oasis.
- 10924. *Zerza*. From Biskra oasis.
- 10925. *Zerza*. From Biskra oasis.
- 10926. *Boo Halas*. From Biskra oasis.
- 10927. *Boo Halas*. From Biskra oasis.
- 10928. *Boo Halas*. From Biskra oasis.
- 10929. *Khodry*. From Biskra oasis.

**10757 to 10958—Continued.**

10930. *Khodry*. From Biskra oasis.  
 10931. *Khodry*. From Biskra oasis.  
 10932. *Lookzy*. From Filiache oasis.  
 10933. *Lookzy*. From Filiache oasis.  
 10934. *Rhazee*. From Filiache oasis.  
 10935. *Rhazee*. From Filiache oasis.  
 10936. *Rhazee*. From Filiache oasis.  
 10937. *Mnooar* (male). From Filiache oasis.  
 10938. *Mnooar* (male). From Filiache oasis.  
 10939. *Iteem Joher*. From Filiache oasis.  
 10940. *Iteem Joher*. From Filiache oasis.  
 10941. *Iteem Joher*. From Filiache oasis.  
 10942. *Goondy*. From Filiache oasis.  
 10943. *Goondy*. From Filiache oasis.  
 10944. *Goondy*. From Filiache oasis.  
 10945. *Lookzy*. From Filiache oasis.  
 10946. *Ahmar Msab*. From Chetma oasis.  
 10947. *Ahmar Msab*. From Chetma oasis.  
 10948. *Ahmar Msab*. From Chetma oasis.  
 10949. *Retbet Abdala*. From Chetma oasis.  
 10950. *Retbet Abdala*. From Chetma oasis.  
 10951. *Retbet Abdala*. From Chetma oasis.  
 10952. *Sokria*. From Chetma oasis.  
 10953. *Sokria*. From Chetma oasis.  
 10954. *Sokria*. From Chetma oasis.  
 10955. *Nesheen*. From Chetma oasis.  
 10956. *Nesheen*. From Chetma oasis.  
 10957. *Nesheen*. From Chetma oasis.  
 10958. (No label.)

**10959. SECHIUM EDULE.****Chayote.**

From New Orleans, La. Received thru the J. Steckler Seed Company (Limited).  
 Received May 10, 1904.

"Fruits of the commercial variety common in New Orleans markets." (*Fairchild*.)

**10960. MANGIFERA INDICA.****Mango.**

From Tahiti. Received April 26, 1904.

"Seed of a fruit of a variety of mango brought by the captain of the steamer *Mariposa* to San Francisco. The captain declares it to be a superior variety, very free from fiber and very luscious. A fruit of this variety was eaten by Mr. George W. Oliver and he declares it an excellent variety. The captain says there are many trees of this variety in Tahiti. Owing to its large size and freedom from fiber it may prove valuable." (*Fairchild*.)

**10961. (Undetermined.)**

From Arcelia, Guerrero, Mexico. Presented by Mr. Federico Chisolm. Received May 5, 1904.

A small packet of flower seed. Flower described by Mr. Chisolm as follows: "Perennial blue flower, yellow center. Twelve inches to 20 inches. Blooms June, July, August, December, January, and February. Desirable for bedding."



**10962. VICIA FABA.****Horse bean.**

From Tunis, Tunis. Received thru Mr. R. Gagey, Agricultural College, Tunis, May 17, 1904.

"Roots of horse bean, dried in the shade, for material from which to secure the micro-organism which forms the nitrogen-collecting nodules." (*Fairchild.*)

**10963. LILIUM NEILGHERRENSE.****Neilgherry lily.**

From Utakamand, India. Presented by Mr. H. F. Macmillan, curator, Royal Botanic Garden, Peradeniya, Ceylon, thru Mr. Fairchild, May 20, 1904.

**10964. GOSSYPIMUM TOMENTOSUM.****Cotton.**

From Honolulu, Hawaii. Presented by Mr. Jared G. Smith, special agent in charge of the Agricultural Experiment Station, May 18, 1904.

**10965. MUSA SAPIENTUM.****Banana.**

From Grand Canary, Canary Islands. Received thru Mr. Alaricus Delmard, May 20, 1904.

"Suckers of the so-called 'Chinese' banana, commonly grown in the Canary Islands and shipped to England in large quantities. It is reported that this variety of banana brings a higher price on the London market than the Jamaican or Central American varieties." (*Fairchild.*)

**10966. LILIUM PHILIPPINENSE.****Lily.**

From Manila, P. I. Received from Mr. Elmer D. Merrill, botanist of the Bureau of Government laboratories, Manila, thru Capt. George P. Ahern, May 28, 1904.

"*Bougainvillea* lily, introduced especially for experiments in hybridizing lilies." (*Fairchild.*)

**10967. FURCRAEA FOETIDA.**

From Port Luis, Mauritius. Presented by Mr. John W. Holway, United States vice-consul, to Mr. L. H. Dewey. Received May 10, 1904.

"My principal object in introducing them is to determine whether there is any difference between Porto Rico 'maguey' and Mauritius 'alsen vert.'" (*Dewey.*)

**10968. MAGNOLIA PUMILA.****Magnolia.**

From Canton, China. Presented by Mr. Thomas Griffith. Received May 23, 1904.

"Plants of an ornamental known in Canton as 'Yei-hap.' Said by Captain Bernadon, of the United States Navy, to be a great favorite among the Chinese, the flowers, which are fragrant, being used for boutonnières. Occasionally cultivated in the South." (*Fairchild.*)

**10969 to 10974.**

Presented by Mr. Frederick Cramer, thru Dr. L. O. Howard. Received May 23, 1904.

**10969. (Undetermined.)****Cactus.**

From the City of Mexico, Mexico.

"A low-growing species of cactus, the small berry-like cactus fruit of which is said to be edible." Probably comes from Michoacan." (*Fairchild.*)

**10970. CITRUS AURANTIUM.****Orange.**

From Atotonilco, State of Jalisco, near Guadalajara, Mexico.

*Telon.* Said to be the very best seedling orange raised in southern Mexico. "Like a lemon but round like an apple. Sweet tasting." (*Fairchild.*)

**10971.**

From the City of Mexico, Mexico.

A collection of seeds secured by Mr. Cramer from all over Mexico, mostly of ornamental flowers, shrubs, and trees.

**10969 to 10974—Continued.****10972.** (Undetermined.)

From Guadalajara, Mexico.

Seeds of a medicinal plant.

**10973.** *CICER ARIETINUM.***Chick-pea.**

From Mexico.

**10974.** *CICER ARIETINUM.***Chick-pea.**

From Jalisco.

"Grown on dry, arid lands in the hotter portions of Mexico without irrigation. The weevils which attack this chick-pea are said to be injurious to other cereals. These seed should be carefully fumigated. Raised in Mexico on heavy, dry, black soil." (*Fairchild.*)

**10975. CASTILLA sp. (?)**

From Chiapas, Mexico. Presented by Mr. James Maunder, thru Dr. L. O. Howard. Received May 23, 1904.

Mr. Maunder considers this a valuable variety.

**10976 and 10977.**

From Quito, Ecuador. Presented by Mr. Luis Sodiro, S. J., a botanist and student of Ecuador agriculture. Received May 25, 1904.

**10976.** *FESTUCA PABULARIS.***10977.** *POA MULALENSIS.*

"Mr. Sodiro remarks that Nos 10976 and 10977 are some of the most remarkable forage grasses of the mountain region of Ecuador. They are likely to prove of value in certain portions of this country." (*Fairchild.*)

**10978. PERSEA GRATISSIMA.****Avocado.**

From Guatemala. Presented by Hon. Alfred A. Winslow, consul-general, Guatemala, Central America. Received May 23, 1904.

**10979 to 10999.**

From Hsi-an, China. Presented by Mr. W. W. Simpson in exchange for seeds of American vegetables sent him in December, 1903. Received May 23, 1904.

Seed as follows:

**10979.** *CANNABIS SATIVA.***Hemp.****10980.**

A mixture, but labeled "Parsley."

**10981.** *BRASSICA PE-TSAI.***Pe-tsai cabbage.****10982.** *BRASSICA ALBA.***White mustard.****10983.** *BRASSICA ALBA.***White mustard.****10984.** *BRASSICA PE-TSAI.***Pe-tsai cabbage.****10985.** *HORDEUM VULGARE.***Barley.****10986.** *PISUM sp.***Pea.****10987.** *PISUM SATIVUM.***Pea.****10988.** *ALLIUM CEPA.***Onion.****10989.** *BETA VULGARIS.***Beet.****10990.** *RAPHANUS SATIVUS.***Spring radish.****10991.** *VICIA FABA.***Broad bean.****10992.** *TRITICUM VULGARE.***Winter wheat.**

**10979 to 10999—Continued.**

10993.	TRIGONELLA FOENUM-GRÆCUM.	Fenugreek.
10994.	BRASSICA PE-TSAI.	Pe-tsai cabbage.
10995.	APIUM GRAVEOLENS.	Celery?
10996.	LACTUCA SATIVA.	Lettuce.
10997.	BRASSICA PE-TSAI.	Pe-tsai cabbage.
10998.	LACTUCA SATIVA.	Lettuce.
10999.	LACTUCA SATIVA.	Lettuce.

**11000. PHLEUM PRATENSE.****Timothy.**

From Tokyo, Japan. Received from Mr. T. Watase, president of the Tokyo Plant, Seed, and Implement Company, thru Dr. Oscar Loew, Imperial University, Tokyo, May 31, 1904.

"Seed from Hakkaido, the northern island of Japan." (*Fairchild.*)

**11001. NICOTIANA TABACUM.****Tobacco.**

From Sao Paulo, Brazil. Secured thru Dr. Horace M. Lane, president of the Mackenzie College. Received May 23, 1904.

*Criolo.*

**11002. PANCRACTIUM sp.**

From Arcelia, Guerrero, Mexico. Presented by Mr. Federico Chisolm. Received June 6, 1904.

**11003. PHOENIX DACTYLIFERA.****Date.**

From Biskra, Algeria. Received thru Monsieur Colombo by Mr. E. F. Chumard, of Imperial, Cal., Mr. E. A. Bessey, of this Department, acting as agent in the transaction, the previous correspondence having been conducted by Mr. Walter T. Swingle.

*Deglet Noor.*

**11004 to 11009.**

From Arcelia, Guerrero, Mexico. Received thru Mr. Federico Chisolm, June 15, 1904.

A collection of native Mexican seeds and bulbs as follows:

11004.	PSIDIUM MOLLE.	Guayabilla.
	Strawberry-flavored guayabillas.	
11005.	PSIDIUM MOLLE.	Guayabilla.
	From fruits having at least four distinct flavors.	
11006.	SPONDIAS PURPUREA.	Ciruela.
11007.	SPONDIAS PURPUREA.	Ciruela.
11008.	LILIUM sp. (?).	Scarlet lily.
11009.	(Unidentified.)	

**11010 to 11017.**

From Sepacuite, Guatemala. Received thru Mr. O. F. Cook, June 6, 1904.

**11010. ANANAS SATIVUS.****Pineapple.**

A spiny-leaved pineapple peculiar to this immediate neighborhood, where it grows and ripens at a higher and cooler elevation than any other sort. The leaves are very broad and drooping, giving a very characteristic appearance. The flesh is yellow, and of moderately good quality, inferior to the best hot-country sorts, but better than the latter when grown in these humid highlands. It might be of use in the mountains of Porto Rico, Hawaii, or the Philippines.

**11010 to 11017—Continued.**

- 11011.** ANANAS SATIVUS. **Pineapple.**  
 A smooth variety, not native here. Perhaps the Smooth Cayenne.
- 11012 to 11017.** CHAMAEDOREA spp. **Palm.**  
 A collection of small palms which will be identified later.

- 11018.** TRIFOLIUM PRATENSE. **Red clover.**  
 From Toledo, Ohio. Received thru S. W. Flower & Co., June 10, 1904.

- 11019.** TRIFOLIUM HYBRIDUM. **Alsike.**  
 From Toledo, Ohio. Received thru S. W. Flower & Co., June 10, 1904.

- 11020.** PRUNUS sp. **Plum.**  
 From Moody, Ala. Received thru Mr. D. S. Jones, June 9, 1904.

*Yanner.* "Bud sticks of a variety of wild plum which, according to Mr. Jones, ripens in Alabama about September 10. If house ripened the plums resemble in taste the *Wild Goose*, but are meatier. When taken from the tree they are bitter, but when mellowed they are excellent. This is a wild sort, probably of the family of the *Wild Goose*, and ripening so late that they are considered valuable for culinary purposes. Altho possibly known to other nurserymen, Mr. Jones does not find them cataloged by any nursery firm. The fruits are medium in size, deep red in color, and they are peculiarly free from disease, seldom being attacked by the curculio." (*Fairchild.*)

**11021 to 11033.**

From Buitenzorg, Java. Presented by Doctor Treub. Received June 15, 1904.  
 As follows:

- 11021.** CALOPHYLLUM HASSKARLII.  
**11022.** CALOPHYLLUM KUNSTLERI LONGIFOLIUM.  
**11023.** CALOPHYLLUM SPECTABILE.  
**11024.** CALOPHYLLUM SPECTABILE CERAMICUM.  
**11025.** CALOPHYLLUM SPECTABILE MIQUELLI.  
**11026.** CALOPHYLLUM VENULOSUM.  
**11027.** GARCINIA DIOICA.  
**11028.** GARCINIA DULCIS PYRIFORMIS.  
**11029.** GARCINIA DULCIS SYLVESTRIS.  
**11030.** GARCINIA FUSCA.  
**11031.** GARCINIA LOUREIRI.  
**11032.** GARCINIA XANTHOCHYMUS.  
**11033.** MESUA FERREA.

- 11034.** PRUNUS CERASUS. **Cherry.**  
 From Moscow, Russia. Received thru Mr. E. A. Bessey, June 15, 1904.

*Vladimir.* Two-year-old trees (seedlings) of this resistant variety of cherry from the trial gardens of Immer & Son, Moscow.

- 11035 to 11038.** NICOTIANA TABACUM. **Tobacco.**  
 From Sao Paulo, Brazil. Received thru Dr. Horace M. Lane, president of the Mackenzie College, June 9, 1904.

**11035 to 11038—Continued.**

Seed of four varieties of tobacco commonly grown in Brazil, as follows:

**11035. *Americano fino.***

Grown in the interior of Bahia. The original stock probably came from the United States.

**11036. *Bahiano.***

A native variety grown in Bahia, from which the celebrated Bahia leaf is made.

**11037. *Santa Cruz.***

A native tobacco grown in Rio Grande do Sul. This sort is highly esteemed.

**11038. *Turco.***

Grown around Sao Paulo for many years. The variety is of Asiatic origin.

**11039 to 11119.**

From Abyssinia, Africa. Received thru Hon. Robert P. Skinner, commissioner of the United States to Abyssinia, June 3, 1904.

"A collection of seeds made for Mr. Skinner, under his direction, by M. Eugène Carotte Bouvet, of the Diré-Daoua, Voie de Djibouti, Côte Française des Somalis. This collection represents, in the main, crops cultivated by the Abyssinians." (*Fairchild*).

11039. TRITICUM DURUM.	11067. ANDROPOGON SORGHUM.
11040. HORDEUM sp.	11068. RICINUS sp.
11041. HORDEUM sp.	11069. RICINUS sp.
11042. HORDEUM sp.	11070. RICINUS sp.
11043. HORDEUM sp.	11071. RICINUS sp.
11044. HORDEUM sp.	11072. RICINUS sp.
11045. GOSSYPIUM sp.	11073. RICINUS sp.
11046. GOSSYPIUM sp.	11074. VIGNA SINENSIS.
11047. GOSSYPIUM sp.	11075. VIGNA SINENSIS.
11048. GOSSYPIUM sp.	11076. VIGNA SINENSIS.
11049. TRITICUM sp.	11077. CORIANDRUM SATIVUM.
11050. TRITICUM sp.	11078. COFFEEA sp.
11051. TRITICUM sp.	11079. LINUM USITATISSIMUM.
11052. TRITICUM sp.	11080. ERVUM LENS.
11053. TRITICUM sp.	11081. BRASSICA OLERACEA.
11054. TRITICUM sp.	11082. ANDROPOGON SORGHUM.
11055. PHASEOLUS VULGARIS.	11083. ANDROPOGON SORGHUM.
11056. PHASEOLUS VULGARIS.	11084. ANDROPOGON SORGHUM.
11057. PHASEOLUS VULGARIS.	11085. ANDROPOGON SORGHUM.
11058. ANDROPOGON SORGHUM.	11086. (Unidentified.)
11059. ANDROPOGON SORGHUM.	11087. TRIGONELLA FOENUM- GRAECUM.
11060. ANDROPOGON SORGHUM.	11088. TRIGONELLA FOENUM- GRAECUM.
11061. ANDROPOGON SORGHUM.	11089. (Unidentified.)
11062. ANDROPOGON SORGHUM.	11090. VIGNA SINENSIS.
11063. ANDROPOGON SORGHUM.	11091. VIGNA SINENSIS.
11064. ANDROPOGON SORGHUM.	11092. (Unidentified.)
11065. ANDROPOGON SORGHUM.	11093. GUIZOTIA OLEIFERA.
11066. ANDROPOGON SORGHUM.	



**11039 to 11119—Continued.**

11094. TRITICUM DICOCCUM.	11107. GUIZOTIA OLEIFERA.
11095. CICER ARIETINUM.	11108. CAPSICUM FRUTESCENS.
11096. LEPIDUM SATIVUM.	11109. CICER ARIETINUM.
11097. PISUM SATIVUM.	11110. CICER ARIETINUM.
11098. PHASEOLUS RADIATUS.	11111. PISUM sp.
11099. TRITICUM DURUM.	11112. PISUM sp.
11100. ELEUSINE CORACANA.	11113. LINUM USITATISSIMUM.
11101. CORIANDRUM SATIVUM.	11114. CENTAUREA sp.
11102. VICIA FABA.	11115. CARTHAMUS TINCTORIUS.
11103. VICIA FABA.	11116. HORDEUM sp.
11104. (Unidentified.)	11117. ERAGROSTIS ABYSSINICA.
11105. ERVUM LENS.	11118. ERAGROSTIS ABYSSINICA.
11106. ZEA MAYS.	11119. ANDROPOGON SORGHUM.

**11120 to 11127.**

From Santa Barbara, Cal. Received thru Dr. F. Franceschi, June 20, 1904.

A collection of plants for experimental work carried on in cooperation with Prof. Haven Metcalf, of the South Carolina Agricultural Experiment Station, Clemson, S. C.

11120. PASSIFLORA COERULEA.	11124. PASSIFLORA ACERIFOLIA.
11121. PASSIFLORA EDULIS.	11125. PASSIFLORA LIGULARIS.
11122. PASSIFLORA PFORDII.	11126. PASSIFLORA ALATA.
11123. PASSIFLORA MANICATA.	11127. TACSONIA EXONIENSIS.

**11128. PHOENIX DACTYLIFERA.****Date.**

From Fayum, Egypt. Received thru Mr. H. A. Rankin, of the Egyptian Market Company (Limited), June 21, 1904.

*Wahi.*

**11129 to 11236.**

Miscellaneous seed on hand July 1, 1904. Numbered to facilitate the keeping of record of distribution.

11129. AGROPYRON TENERUM.	Slender wheat-grass.
From Northrup, King & Co., Minneapolis, Minn.	
11130. AGROSTIS ALBA.	Redtop.
11131. ANDROPOGON HALEPENSIS.	Johnson grass.
11132 to 11136. ANDROPOGON SORGHUM.	Sorghum.
11132. Colman.	11135. Kansas Orange.
11133. Amber.	11136. Collier.
11134. Folger.	
11137. ANDROPOGON SORGHUM.	Kafir corn.
White.	
11138. ANDROPOGON SORGHUM.	Milo.
White.	
11139. ANTHOXANTHUM ODORATUM.	Sweet vernal grass.

## 11129 to 11236—Continued.

11140. *ARACHIS HYPOGAEA*. Peanut.  
*Spanish*. Received March 25, 1904.
11141. *ARRHENATHERUM ELATIUS*. Tall meadow oat-grass.
11142. *ATRIplex SEMIBACCATA*. Saltbush.  
 Received from the California Experiment Station.
11143. *ARRHENATHERUM ELATIUS*. Tall meadow oat-grass.
- 11144 to 11151. *AVENA SATIVA*. Oat.
11144. *Banner*. 11148. *Green Mountain*.
11145. *Burt*. 11149. *Hopetown*.
11146. *California White*. 11150. *Improved American*.
11147. *Dakota Gray*. 11151. *Swiss White*.
- 11152 to 11163. *BETA VULGARIS*. Sugar beet.
11152. *Kleinwanzleben*.  
 From Utah Sugar Refining Company, Lehi, Utah. (Seed Lab. No. 12846.)
11153. *Kleinwanzleben*.  
 From H. C. & J. B. Agnew, Agnew, Cal. (Seed Lab. No. 12848.)
11154.  
 From E. H. Morrison, Fairfield, Wash. (Seed Lab. No. 13007.)
11155. *Kleinwanzleben Nachzucht*.  
 From H. Bennecke & Son, Germany.
11156.  
 From the Alma Sugar Company, Alma, Mich.
11157.  
 From France.
11158. *Kleinwanzleben*.
11159. *Mangel-wurzel*.
11160. *Kleinwanzleben*. (Michigan grown.)  
 From Pennsylvania Sugar Refinery.
11161. *Hoerning's Improved Kleinwanzleben Special Elite*.
11162.  
 From Utah Sugar Company, Lehi, Utah. Crop of 1901. (Seed Lab. No. 12756.)
11163.  
 From H. C. & J. B. Agnew, Agnew, Cal. (Seed Lab. No. 12790.)
11164. *ANDROPOGON SORGHUM*. Broom corn.  
*Tennessee Evergreen*.
11165. *BRASSICA NAPUS*. Rape.  
*Dwarf Essex*.
11166. *BROMUS INERMIS*. Smooth brome-grass.
11167. *BROMUS UNIOLOIDES*. Rescue grass.  
 From J. M. Thorburn & Co., 36 Cortlandt street, New York, N. Y.
11168. *CHAETOCLOA ITALICA*. German millet.
11169. *CAPRIOLA DACTYLON*. Bermuda grass.
11170. *CICER ARIETINUM*. Chick-pea.

## 11129 to 11236—Continued.

- |   |                        |
|---|------------------------|
| 11171. DACTYLIS GLOMERATA.  | Orchard grass.         |
| 11172. EUCHLAENA MEXICANA.  | Teosinte.              |
| 11173. FAGOPYRUM ESCULENTUM.  | Buckwheat.             |
| 11174. FESTUCA ELATIOR.   | Tall fescue.           |
| 11175. FESTUCA HETEROPHYLLA.  | Various-leafed fescue. |
| 11176. FESTUCA OVINA.   | Sheep's fescue.        |
| 11177. FESTUCA PRATENSIS.   | Meadow fescue.         |
| 11178. FESTUCA RUBRA.   | Red fescue.            |
| 11179. GLYCINE HISPIDA.   | Soy bean.              |
| <i>Early Black.</i>   |                        |
| 11180. GLYCINE HISPIDA.   | Soy bean.              |
| <i>Yellow.</i>  |                        |
| 11181 to 11186. GOSSYPIUM BARBADENSE.   | Egyptian cotton.       |
| 11181. <i>Mit Afifi.</i> (Plant Breeding No. 56.)                                       |                        |
| 11182. <i>Jannovitch.</i> (Plant Breeding No. 63.)                                      |                        |
| 11183. <i>Ashmuni.</i> (Plant Breeding No. 59.)   |                        |
| 11184. <i>Mit Afifi.</i> (Plant Breeding No. 55.)                                       |                        |
| 11185. <i>Ashmuni.</i> (Plant Breeding No. 62.)   |                        |
| 11186. <i>Ashmuni.</i> (Plant Breeding No. 61.)   |                        |
| 11187 to 11190. GOSSYPIUM sp.   | Cotton.                |
| 11187. (No label.)  | 11189. <i>Rivers.</i>  |
| 11188. <i>King.</i>   | 11190. <i>Upland.</i>  |
| 11191. HELIANTHUS ANNUUS.   | Sunflower.             |
| Received from the Division of Chemistry in 1901.  |                        |
| 11192. HORDEUM VULGARE.   | Barley.                |
| <i>Manchurian.</i> From the Minnesota Agricultural Experiment Station. (Minn. No. 105.) |                        |
| 11193. HORDEUM VULGARE.   | Barley.                |
| <i>Tennessee Winter.</i> From the Tennessee Agricultural Experiment Station.            |                        |
| 11194. LATHYRUS STIPULARIS.   |                        |
| 11195. LATHYRUS AZUREUS.  |                        |
| 11196. LATHYRUS COCCINEUS.  |                        |
| 11197. LATHYRUS SATIVUS.  | Bitter vetch.          |
| 11198. LATHYRUS SATIVUS.  | Bitter vetch.          |
| Received from C. C. Morse & Co., Santa Clara, Cal.                                      |                        |
| 11199. LATHYRUS SATIVUS.  | Bitter vetch.          |
| From Agricultural Experiment Station, Berkeley, Cal.                                    |                        |
| 11200. LATHYRUS TINGITANUS.   | Tangier scarlet pea.   |
| From C. C. Morse & Co., Santa Clara, Cal.   |                        |
| 11201. LESPEDEZA STRIATA.   | Japan clover.          |
| 11202. LOLIUM ITALICUM.   | Italian rye-grass.     |
| 11203. LOLIUM PERENNE.  | Perennial rye-grass.   |
| 11204. LOTUS CORNICULATUS.  | Bird's-foot trefoil.   |

**11129 to 11236—Continued.**

11205.	LUPINUS AFFINIS.	Blue lupine.
11206.	LUPINUS ANGUSTIFOLIUS.	Blue lupine.
11207.	LUPINUS LUTEUS.	Yellow lupine.
11208.	MEDICAGO DENTICULATA.	Bur clover.
11209.	MEDICAGO SATIVA.	Alfalfa.
11210.	MEDICAGO SATIVA.	Alfalfa.
11211.	MEDICAGO SATIVA.	Alfalfa.

*Turkestan.* From Henry Nungesser & Co., New York, N. Y.

11212.	MELILOTUS ALBA.	Sweet, or Bokhara, clover.
11213.	MUCUNA UTILIS.	Velvet bean.
11214.	PENNISETUM TYPHOIDEUM.	Pearl millet.
11215.	PHLEUM PRATENSE.	Timothy.
11216.	PISUM ARVENSE.	Canada field pea.
11217.	POA PRATENSIS.	Kentucky bluegrass.
11218.	SECALE CEREALE.	Rye.
11219.	SECALE CEREALE.	Rye.

*Winter.*

11220.	CHAEOTCHLOA ITALICA.	Hungarian grass.
11221.	TRIFOLIUM ALEXANDRINUM.	Berseem.
From C. C. Morse & Co., Santa Clara, Cal.		
11222.	TRIFOLIUM HYBRIDUM.	Alsike.
11223.	TRIFOLIUM INCARNATUM.	Crimson clover.
11224.	TRIFOLIUM PRATENSE.	Red clover.
11225.	TRIFOLIUM REPENS.	White clover.
11226 to 11229.	TRITICUM VULGARE.	Wheat.

11226. *Zimmerman.*

11228. *Preston (Spring).*

11227. *Budapest.*

11229. *Turkey.*

From the Agricultural Experiment Station, Manhattan, Kans.

11230.	VICIA BITHYNICA.	
11231.	VICIA FULGENS.	Scarlet vetch.
11232.	VICIA NARBONNENSIS.	Narbonne vetch.
11233.	VICIA SATIVA.	Common vetch.
11234.	VICIA VILLOSA.	Hairy vetch.
11235.	VICIA VILLOSA.	Hairy vetch.
Inoculated April 16, 1904.		
11236.	VIGNA SINENSIS.	Cowpea.

*Warren.* From Professor Newman, Agricultural Experiment Station, Fayetteville, Ark.

**11237 to 11251. BETA VULGARIS.**

**Sugar beet.**

Seed from 1903 crop remaining on hand July 1, 1904, after the distribution made by Mr. J. E. W. Tracy. Previous distribution recorded under these numbers.

11237. *Kleinwanzleben.*

From Klein Wanzleben Sugar Company, Klein Wanzleben, Germany. (Tracy's No. 12853.)

11238. *Schreiber's Spezialität.*

From G. Schreiber & Sons, Nordhausen, Germany. (Tracy's No. 12854.)

**11237 to 11251—Continued.**

- 11239.** From Lehi Sugar Company, Lehi, Utah. (Tracy's No. 12856.)
- 11240.** *Elite Kleinwanzleben.*  
From the Empire Sugar Company, Lyons, N. Y. Originally from Dippe Brothers, Quedlinburg, Germany. (Tracy's No. 12857.)
- 11241.** *Kleinwanzleben.*  
From the Empire Sugar Company, Lyons, N. Y. Originally from Kuhn & Co., Naarden, Holland. (Tracy's No. 12858.)
- 11242.** *Kleinwanzleben.*  
From the Empire Sugar Company, Lyons, N. Y. Originally from F. Heine, Hadmersleben, Germany. (Tracy's No. 12859.)
- 11243.** *Kleinwanzleben.*  
From the American Beet Sugar Company, Grand Island, Nebr. (Tracy's No. 12860.)
- 11244.** *Kleinwanzleben.*  
From the Sanilac Sugar Refining Company, Croswell, Mich. Originally from Orro Hoerning, Eisleben, Germany. (Tracy's No. 12862.)
- 11245.** *Kleinwanzleben.*  
From the Sanilac Sugar Refining Company, Croswell, Mich. Originally from Henry Mette, Quedlinburg, Germany. (Tracy's No. 12863.)
- 11246.** *Jaensch Victrix.*  
From the Sanilac Sugar Refining Company, Croswell, Mich. Originally from Gustav Jaensch, Aschersleben, Germany. (Tracy's No. 12864.)
- 11247.** *Knauer's Mangold.*  
From the Sanilac Sugar Refining Company, Croswell, Mich. Originally from M. Knauer, Grobers, Germany. (Tracy's No. 12765.)
- 11248.** *Aderstadt.*  
From the Sanilac Sugar Refining Company, Croswell, Mich. Originally from M. Knauer, Grobers, Germany. (Tracy's No. 12866.)
- 11249.** *Kleinwanzleben.*  
From the Menominee River Sugar Refining Company, Menominee, Mich. Originally from the Klein Wanzleben Sugar Factory, Klein Wanzleben, Germany. (Tracy's No. 12867.)
- 11250.** *Elite Kleinwanzleben.*  
From the Menominee River Sugar Refining Company, Menominee, Mich. Originally from Otto Bruenstedt, Schladenam-Hartz, Germany. (Tracy's No. 12868.)
- 11251.** *Elite Kleinwanzleben.*  
From Menominee River Sugar Refining Company, Menominee, Mich. Originally from C. Braune, Biendorf, Germany. (Tracy's No. 12869.)

**11252 to 11258.**

Plants and seeds presented to or secured by Mr. P. H. Dorsett for planting at the Plant Introduction Garden, Chico, Cal.

**11252. JUGLANS CALIFORNICA × QUERCUS (?).**

Presented by Mr. S. M. Desher, Garden Grove, Cal.

"This is one of a number of trees from a planting made for grafting stock about two years ago." (Dorsett.)

**11253. JUGLANS NIGRA.**

**Black walnut.**

Nuts from Mr. Ewing D. Johnson's farm, near Rockbridge, southeast of Columbia, Mo.

**11254. HICORIA sp.**

**Hickory.**

Small hickory nuts from Mr. Ewing D. Johnson's farm, near Rockbridge, southeast of Columbia, Mo. Secured in February, 1904.

**11255. AMYGDALUS hyb.**

**Peach almond.**

Seeds from G. W. H. fruit ranch. Received October 22, 1903.



**11252 to 11258—Continued.****11256.** HICORIA sp.**Hickory.**

Large hickory nuts from Wolfskill Ranch, Yolo County, Cal. Received October 10, 1903.

**11257.** JUGLANS CINEREA.**Butternut.**

Nuts from Wolfskill Ranch, Yolo County, Cal. Received October 25, 1903.

**11258.** CEDRUS LIBANI.**Cedar of Lebanon.**

Seed from an avenue of trees near Pasadena, Cal. Presented by Mr. C. R. Lukins, Pasadena, Cal.

**11259 to 11262.**

From Hacienda "La Trinidad," Arcelia, Guerrero, Mexico. Presented by Mr. Federico Chisolm. Received June 24, 1904.

A collection of unidentified Mexican bulbs.

**11263. GOSSYPIUM HERBACEUM.****Cotton.**

From Valetta, Malta. Presented by Dr. Giovanni Borg. Received June 20, 1904.

*Maltese.* "Seed of the old Maltese cotton, which, according to Doctor Borg, has been cultivated in Malta since the times of the Phoenicians, three thousand years ago. This is an early-ripening sort, maturing its bolls in August or September. It is a very hardy sort, of low habit, and flowers and sets with bolls when quite young. Doctor Borg says it should be sown rather thick and that it is a very productive sort. The fiber is rather short, altho very strong and elastic. Introduced as of possible use in the experiments against the boll weevil because of its early-ripening habit." (*Fairchild.*)

**11264 to 11268.**

From Geneva, Idaho. Received thru Mr. F. W. Boehme, June 23, 1904.

A collection of grains adapted to high altitudes, as follows:

**11264.** HORDEUM VULGARE.**Barley.**

Beardless.

**11265.** HORDEUM VULGARE.**Barley.**

Beardless and hull-less.

**11266.** TRITICUM VULGARE.**Wheat.**

Spring wheat.

**11267.** LINUM USITATISSIMUM.**Flax.****11268.** SECALE CEREALE.**Rye.**

Spring rye.

**11269. HYPHAENE CRINITA.****Doum palm.**

From Upper Egypt. Received thru Mr. T. H. Kearney, June 15, 1904.

"Botanically this is one of the most interesting palms in the world, as, unlike almost all others, it has a branching stem. It is suited to a frostless and exceptionally dry region and may succeed in the warmest and driest portions of this country. The fruits, which are produced in large clusters, are used for food by the poorer classes, the part eaten being the fibrous, mealy husk, which tastes something like gingerbread, and for this reason is called the "gingerbread tree" of Egypt. A drink called "coca" is also made from this fibrous husk and the large, yellowish brown, beautifully polished fruits of this palm." (*Kearney.*)

**11270 to 11274.**

From Jalapa, Mexico. Presented by Mr. Frank N. Meyer to Mr. G. W. Oliver. Received June 23, 1904.

Seeds of five wild Mexican plants, mostly unidentified.

**11275. MEDICAGO SATIVA.****Alfalfa.**

From Chicago, Ill. Received thru the Albert Dickinson Company, June 28, 1904.  
(Ordered by sample "Cabin.")

**11276. TRIFOLIUM REPENS.****White clover.**

From Chicago, Ill. Received thru the Albert Dickinson Company, June 28, 1904.  
(Ordered by sample "Boil.")

**11277 to 11341. PHOENIX DACTYLIFERA.****Date.**

From Orléansville, Algeria. Received thru Yahia ben Kassem, July 5, 1904.  
Sixty-five date palms, all from the Mzab oasis.

11277. <i>Deglet Noor.</i>	11310. <i>Kerboosh.</i>
11278. <i>Deglet Noor.</i>	11311. <i>Kerboosh.</i>
11279. <i>Deglet Noor.</i>	11312. <i>Tafazween.</i>
11280. <i>Rhars.</i>	11313. <i>Tafazween.</i>
11281. <i>Rhars.</i>	11314. <i>Tafazween.</i>
11282. <i>Rhars.</i>	11315. <i>Timjoohert.</i>
11283. <i>Hamraya.</i>	11316. <i>Timjoohert.</i>
11284. <i>Hamraya.</i>	11317. <i>Timjoohert.</i>
11285. <i>Hamraya.</i>	11318. <i>Timjoohert.</i>
11286. <i>Tadala.</i>	11319. <i>Timjoohert.</i>
11287. <i>Tadala.</i>	11320. <i>Timjoohert.</i>
11288. <i>Tadala.</i>	11321. <i>Timjoohert.</i>
11289. <i>Tadala.</i>	11322. <i>Timjoohert.</i>
11290. <i>Tadala.</i>	11323. <i>Timjoohert.</i>
11291. <i>Tadala.</i>	11324. <i>Timjoohert.</i>
11292. <i>Tadala.</i>	11325. <i>Timjoohert.</i>
11293. <i>Tadala (?)</i> .	11326. <i>Tamzoochart.</i>
11294. <i>Bent Kebala.</i>	11327. <i>Tamzoochart.</i>
11295. <i>Bent Kebala.</i>	11328. <i>Taoorarhet.</i>
11296. <i>Bent Kebala.</i>	11329. <i>Taoorarhet.</i>
11297. <i>Bent Kebala.</i>	11330. <i>Taoorarhet.</i>
11298. <i>Bent Kebala.</i>	11331. <i>Lazerza.</i>
11299. <i>Bent Kebala.</i>	11332. <i>Tazeza'oot.</i>
11300. <i>Bent Kebala.</i>	11333. <i>Tazeza'oot.</i>
11301. <i>Bent Kebala.</i>	11334. <i>Tazeza'oot.</i>
11302. <i>A' Ooshet.</i>	11335. <i>Toojat.</i>
11303. <i>A' Ooshet.</i>	11336. <i>Toojat.</i>
11304. <i>A' Ooshet.</i>	11337. <i>Toojat.</i>
11305. <i>Kseba.</i>	11338. <i>Sebaa Loosif.</i>
11306. <i>Kseba.</i>	11339. <i>Sebaa Loosif.</i>
11307. <i>Kseba.</i>	11340. (No label.)
11308. <i>Kerboosh.</i>	11341. <i>Tazaga'at.</i>
11309. <i>Kerboosh.</i>	

**11342. NEPHELIUM LITCHI.****Litchi.**

From Trinidad, British West Indies. Received July 2, 1904.

**11343. GOSSYPIMUM BARBADENSE.****Cotton.**

From Valetta, Malta. Presented by Dr. Giovanni Borg. Received July 5, 1904.

"An Egyptian variety which Doctor Borg has been trying to improve on the island of Malta. Introduced for the experiments in connection with the boll weevil." (*Fairchild.*)

**11344. VIGNA SINENSIS.****Cowpea.**

From West Branch, Mich. Received thru Edw. E. Evans Seed Company, July 8, 1904.

*Michigan Favorite.* Said by Mr. Evans to be the earliest sort known; ripens seed every year in Michigan.

**11345 to 11353.**

From Guerrero, Mexico. Received thru Mr. Federico Chisolm, July 9, 1904.

Native Mexican bulbs, not identified.

**11354. COFFEA sp.****Coffee.**

From Abyssinia, Africa. Presented by Hon. Robert P. Skinner, American consul-general at Marseille, France. Received July 11, 1904.

*Harrar.* Probably a wild variety from Abyssinia.

**11355 to 11368. BETA VULGARIS.****Sugar beet.**

Seed from 1903 crop remaining on hand July 1, 1904, after the distribution made by Mr. J. E. W. Tracy. Previous distribution recorded under these numbers.

**11355. Schreiber's Specialität.**

From the Menominee Sugar Refining Company, Menominee, Mich. Originally from G. Schreiber & Sons, Nordhausen, Germany. (Tracy's No. 12870.)

**11356. Kleinwanzleben.**

From H. C. & J. B. Agnew, Agnew, Cal. (Tracy's No. 12871.)

**11357. Kleinwanzleben.**

From Metz & Co., Streglitz, near Berlin, Germany.

**11358. From M. Knauer, Grobers, Germany. Marked 7300.****11359. From M. Knauer, Grobers, Germany. Marked 7301.****11360. Kleinwanzleben.**

From Carl Schobert & Co.

**11361. Elite Kleinwanzleben.**

From G. Schreiber & Sons, Nordhausen, Germany.

**11362. Kleinwanzleben.**

From E. H. Morrison, Fairfield, Wash. Purchased in 1902 for the Congressional seed distribution.

**11363. Kleinwanzleben.**

From E. H. Morrison, Fairfield, Wash. (Tracy's No. 12855.)

**11364. Kleinwanzleben.**

From C. C. Morse & Co., Santa Clara, Cal. (Tracy's No. 12861.)

**11365. (Tracy's No. 12844.)****11367. (Tracy's No. 12849.)****11366. (Tracy's No. 12847.)****11368. (Tracy's No. 12850.)**

**11369. MANGIFERA INDICA.****Mango.**

From the Government Botanic Gardens, Seharunpur, India. Presented by Mr. Robert Anderson, Lansdowne, Pa., for propagation. Received February 25, 1904.

Buds of the *Langra* mango.

**11370 and 11371.**

Seed on hand July 1, 1904, numbered for convenience of recording distribution.

**11370. VIGNA SINENSIS.**

**Cowpea.**

*Iron.* From Mr. T. S. Williams, Monetta, S. C.

**11371. ANDROPOGON SORGHUM.**

**Sorghum.**

*Early Amber.* From Mr. Seth Kenney, Morristown, Minn.

**11372 to 11477. VITIS sp.****Grape.**

From Thomery, France. Received thru E. Salomon & Sons, and shipped direct to Niles, Cal.

**11372.** *Rupestris* Martin.

**11373.** *Riparia* Grand Glabre  $\times$  Aramon-*Rupestris* 4110.

**11374.** *Pinot*  $\times$  *Rupestris* 1305.

**11375.** *Rupestris* de Semis 81-2.

**11376.** *Mourvedre*  $\times$  *Rupestris* 1202.

**11377.** *Riparia* France.

**11378.** *Rupestris*  $\times$  *Berlandieri* 301-37-152.

**11379.** *Monticola*  $\times$  *Riparia* 18804.

**11380.** *Monticola*  $\times$  *Riparia* 18815.

**11381.** *Chasselas*  $\times$  *Berlandieri* 41 B.

**11382.** *Cabernet*  $\times$  *Rupestris* Ganzin 33 A.

**11383.** *Bourisquou*  $\times$  *Rupestris* 4306.

**11384.** *Monticola*  $\times$  *Riparia* 18808.

**11385.** *Rupestris*  $\times$  *Berlandieri* 301 A.

**11386.** *Riparia*  $\times$  *Rupestris*-Aramon-Jaeger 201.

**11387.** *Riparia*  $\times$  *Berlandieri* 161-49.

**11388.** *Riparia*  $\times$  *Rupestris* 3306.

**11389.** *Viala*.

**11390.** *Bourisquou*  $\times$  *Rupestris* 3907.

**11391.** *Berlandieri*  $\times$  *Riparia* 420 A.

**11392.** *Rupestris*  $\times$  *Berlandieri* 219 A.

**11393.** *Bourisquou*  $\times$  *Rupestris* 109-4.

**11394.** *Bourisquou*  $\times$  *Rupestris* 4308.

**11395.** *Viala*  $\times$  *Riparia*.

**11396.** *Berlandieri*  $\times$  *Riparia* 420 B.

**11397.** *Rupestris*  $\times$  *Riparia* 1615.

**11398.** *Riparia* du Colorado.

**11399.** *Riparia*  $\times$  *Rupestris* 101-14.

**11400.** *Berlandieri*  $\times$  *Riparia* 33 E. M.

**11401.** *Rupestris*  $\times$  *Riparia* 108-16.

## 11372 to 11477—Continued.

- 11402. *Berlandieri* Lafont No. 9.
- 11403. *Alicante Bouschet* × *Riparia* 141 A.
- 11404. *Aramon* × *Rupestris* Ganzin 9.
- 11405. *Aestivalis-Calicola* × *Riparia-Rupestris* 554-5.
- 11406. *Berlandieri* No. 1.
- 11407. *Berlandieri* No. 2.
- 11408. *Berlandieri* × *Riparia* 157-11.

The following vines were received at Niles, April 11, 1904:

- 11409. *Cordifolia* × *Riparia* 127-1 (?).
- 11410. *Rupestris* × *Cinerea*.
- 11411. *Rupestris* × *Cordifolia* 107-11.
- 11412. *Rupestris* × *Hybrid Azemar* 215.
- 11413. *York* × *Rupestris* Ganzin 202.
- 11414. *York* × *Rupestris* Ganzin 212.

The following cuttings were received at Niles, March 22, 1904:

- 11415. *Pinot* × *Rupestris* 1305.
- 11416. *Rupestris* Othello.
- 11417. *Riparia* × *Rupestris-Aramon-Jaeger* 201.
- 11418. *Riparia* × *Berlandieri* 161-49.
- 11419. *Monticola* × *Riparia* 18804.
- 11420. *Chasselas* × *Rupestris* 901.
- 11421. *Columbaud* × *Riparia* 2502.
- 11422. *Riparia* Grand Glabre × *Aramon-Rupestris* 4110.
- 11423. *Rupestris* × *Riparia* 1615.
- 11424. *Pinot Bouschet* × *Riparia* 3001.
- 11425. *Rupestris* × *Petit Bouschet-Jaeger* 504.
- 11426. *Berlandieri* × *Riparia* 34 E. M.
- 11427. *Mourvedre* × *Rupestris* 1202.
- 11428. *Berlandieri* × *Riparia* 33 E. M.
- 11429. *Berlandieri* × *Riparia* 420 A.
- 11430. *Bourisquou* × *Rupestris* 603.
- 11431. *Berlandieri* × *Riparia* 420 B.
- 11432. *Riparia* × *Cordifolia-Rupestris* 106-8.
- 11433. *Tisserand*.
- 11434. *Riparia* France.
- 11435. *Monticola* × *Riparia* 18815.
- 11436. *Cabernet* × *Rupestris* Ganzin 33 A.
- 11437. *Riparia* × *Rupestris* 3306.
- 11438. *Riparia* Martineau.
- 11439. *Riparia* × *Rupestris* Ramon.
- 11440. *Rupestris* Martin.
- 11441. *Aramon* × *Riparia* 143 A.
- 11442. *Riparia* × *Rupestris* 101-14.
- 11443. *Rupestris* × *Berlandieri* 301 A.



**11372 to 11477—Continued.**

- 11444. *Carignane* × *Rupestris* 504.
- 11445. *Rupestris* × *Riparia* 108-16.
- 11446. *Rupestris de Semis* 81-2.
- 11447. *Aestivalis-Calicola* × *Riparia-Rupestris* 554-5.
- 11448. *Monticola* × *Riparia* 18808.
- 11449. *Aramon* × *Rupestris* Ganzin 9.
- 11450. *Berlandieri* No. 2.
- 11451. *Berlandieri* × *Riparia* 157-11.
- 11452. *Berlandieri* Lafont No. 9.
- 11453. *Riparia* × *Rupestris* 101.
- 11454. *Carignane* × *Rupestris* 501.
- 11455. *Rupestris* × *Berlandieri* 301-37-152.
- 11456. *Riparia* × *Rupestris* 3309.
- 11457. *Riparia* × *Rupestris de Jaeger*.
- 11458. *Viala* × *Riparia*.
- 11459. *Rupestris* Mission.
- 11460. (Unidentified.)

The following cuttings were received at Niles, April 11, 1904:

- 11461. *Bourisquou* × *Rupestris* 109-4.
- 11462. *Bourisquou* × *Rupestris* 603.
- 11463. *Carignane* × *Rupestris* 504.
- 11464. *Rupestris* × *Cordifolia* 107-11.
- 11465. *Rupestris* × *Hybrid Azemar* 215.
- 11466. *Alicante Bouschet* × *Cordifolia* 142 B.
- 11467. *Aestivalis-Rupestris* × *Riparia* 227.
- 11468. *Cordifolia* × *Rupestris*.
- 11469. *Rupestris* × *Berlandieri* 301 B.
- 11470. *Bourisquou* × *Rupestris* 4306.
- 11471. *Bourisquou* × *Rupestris* 4308.
- 11472. *Carignane* × *Rupestris* 501.
- 11473. *Calicola* × *Aestivalis* 13205.
- 11474. *York* × *Rupestris* Ganzin.
- 11475. (Unidentified.)
- 11476. *Cinerea-Rupestris* × *Riparia* 229.
- 11477. (Unidentified.)

**11478. GARCINIA MORELLA.****Gamboge.**

From Castleton Gardens, Jamaica. Received July 18, 1904.

**11479. LESPEDEZA STRIATA.****Japan clover.**

From Augusta, Ga. Received thru the N. L. Willet Drug Company, July 19, 1904.

**11480. EUCHLAENA MEXICANA.****Teosinte.**

From Richmond, Va. Received thru T. W. Wood & Sons, July 20, 1904.

**11481. LOLIUM PERENNE.****English rye-grass.**

From New York, N. Y. Received thru Henry Nungesser &amp; Co., July 20, 1904.

**11482. FESTUCA PRATENSIS.****Meadow fescue.**

From New York, N. Y. Received thru Henry Nungesser &amp; Co., July 20, 1904.

**11483 and 11484.**

From Ghent, Belgium. Received thru Mr. Louis Van Houtte, père, July 22, 1904.

**11483. GARCINIA LIVINGSTONEI.****11484. LANSIUM SUMATRANA.****11485 to 11489. PHOENIX DACTYLIFERA.****Date.**

From Fayum, Egypt. Received thru Mr. H. A. Rankin, July 26, 1904.

**11485. Saydy.****11488. Frakhee.****11486. Gaggay.****11489. Saydy (male)****11487. Sultany.**

"These date offshoots were wrapt in palm fiber (*lif*) and held in place by cords. They were rather dry, but in general in fairly good condition. Most of the offshoots were small, some not weighing over 10 pounds and only some half dozen weighing over 50 pounds. However, considering the inaccessibility of the region, we ought to be glad to get almost any kind of an offshoot that will grow. I noticed that the variety *Saydeh* has a large number of small offshoots attached to the sides of those sent, altho, as I stated above, the offshoots are only of medium size, averaging probably 30 to 40 pounds in weight. The collection of *Frakhee* consisted of one very large offshoot and three very small ones. The very large offshoot showed a remarkable peculiarity in that the palm fiber, or '*lif*,' was still intact, forming a cardboard-like tissue, especially on the right-hand border. If this peculiarity of the interpetiolar sheets of fiber appears constant, this variety will have a very clear distinguishing mark." (*Swingle*.)

**11490. VITIS RHOMBIFOLIA.****Grape.**

Received from the United States Botanical Gardens, Washington, D. C., in 1901. Plants originally came from the Botanic Garden in Glasgow.

**11491. VITIS GONGYLODES.****Grape.**

From St. Louis, Mo. Presented by Dr. William Trelease, superintendent of the Missouri Botanic Garden, to Dr. B. T. Galloway, in 1902.

**11492. VITIS sp.****Grape.**

From Mexico. Received thru Dr. J. N. Rose, of the United States National Museum, in 1902. (Rose No. 286.)

**11493. VITIS sp.****Grape.**

From Mexico. Received thru Dr. J. N. Rose, of the United States National Museum, in 1902. (Rose No. 749.)

**11494. PHLEUM PRATENSE.****Timothy.**

From Toledo, Ohio. Received thru W. D. Morehouse &amp; Co., July 26, 1904.

**11495. PANICUM MILIACEUM.****Broom-corn millet.**

From Cincinnati, Ohio. Received thru J. M. McCullough's Sons, July 27, 1904.

**11496. CHAETOCHELOA ITALICA.****German millet.**

From Chicago, Ill. Received thru the Albert Dickinson Company, July 27, 1904.  
 "Pellet" sample.

**11497. NICOTIANA TABACUM.****Tobacco.**

From Cavala, Turkey. Presented by Mr. N. J. Pantelides, of Chios Island, Turkey. Received July 5, 1904.

"Seed of the famous Cavala tobacco, which forms one of the most important elements used in the blending of the cigarette filler of the famous Egyptian cigarettes. According to Mr. Pantelides's letter of June 18, 1904, this seed was sent him by the governor of Cavala and is no doubt authentic and of first quality. Mr. Pantelides further remarks that the cultivation and harvesting of the Cavala tobacco require great experience. From the same plant one can pick leaves of a value of only 0.50 of a franc per kilogram and of a value of 15 to 20 francs a kilogram. The lance-shaped leaves found at the summit of the plant have a very fine aroma, and it is for this fine aroma that such high prices are paid. If during the process of picking the terminal bud is injured, the fine aroma of the leaves is lost and the leaves lose their value. The processes of drying and fermentation are those which give to the leaves their fine color and excellent flavor. The Ottoman Regie pays from one to two thousand francs monthly salary to good classifiers (clarificateurs) and 250 to 300 francs a month to good cultivators. In his country Mr. Pantelides says the seed is sown in January, transplanted during February to a place protected from the cold, and in March transplanted again to permanent locations. Each plant is set out a meter each way from its neighbors. The best soil for the culture of this tobacco is said to be a red one mixt with stones of iron pyrites, and the best locations are those on the eastern slopes of hills." (*Fairchild.*)

**11498. NICOTIANA TABACUM.****Tobacco.**

From Sao Paulo, Brazil. Received thru Dr. Horace M. Lane, president of the Mackenzie College, July 25, 1904.

*Bahiano* tobacco seed, the variety from which the celebrated *Bahia* leaf is made.

**11499. PRUNUS VIRGINIANA.****Chokecherry.**

"From Arden, near Dakota-Montanaline. Presented by Prof. J. W. Blankinship, of the Montana Agricultural Experiment Station, Bozeman, Mont. Received August 1, 1904.

"Seeds of a free-flowering shrubby species of chokecherry which is perfectly hardy when the thermometer drops to  $-30^{\circ}$  F. in winter. From the description given by Professor Blankinship this must be a very showy plant in spring. The black fruits are used for jam or 'cherry butter' making." (*Fairchild.*)

"A beautiful flowering tree, about 25 feet high." (*Blankinship.*)

**11500. PRUNUS VIRGINIANA.****Chokecherry.**

From Bozeman, Mont. Presented by Prof. J. W. Blankinship. Received August 1, 1904.

"Seeds of a large, red-fruited variety, whose fruits are considered better than the black. Large quantities of cherry butter are made in Montana, and this variety has possibilities for the breeder." (*Fairchild.*)

**11501. GARCINIA INDICA.**

From Trinidad, West Indies. Received thru Mr. J. H. Hart, superintendent of the Botanic Gardens, July 29, 1904.

**11502. GOSSYPIUM sp.****Cotton.**

From San Luis Soyatlan, Jalisco, Mexico. Received thru Señor Hilario Cuevas, July 21, 1904.

Cotton harvested in June from trees planted in September preceding at an altitude of 1,630 meters above the level of the sea. Sent at the request of Mr. L. H. Dewey.

**11503. MUCUNA UTILIS.****Velvet bean.**

From Clarcona, Fla. Received thru Mr. H. Meislahn, August 3, 1904.

**11504. COFFEA sp.****Coffee.**

From Abyssinia. Received thru Hon. Robert P. Skinner, United States consul-general at Marseille, France, July 22, 1904.

Wild *Harrar* coffee.**11505 to 11531.**

From London, England. Received thru James Veitch &amp; Sons (Limited), April, 1904.

A collection of plants, as follows:

**11505. RUBUS AUSTRALIS.****11506. RUBUS BIFLORUS.****11507. RUBUS ODORATUS.****Purple flowering raspberry.****11508. RUBUS ROSAEFOLIUS.****Strawberry raspberry.****11509. RUBUS PHOENICOLASIUS.****Wineberry.****11510. RUBUS NIGROBACCUS.****Blackberry.***Snyder.***11511. RUBUS SPECTABILIS.****Salmon berry.****11512. RUBUS DELICIOSUS.****Rocky Mountain flowering raspberry.****11513. RUBUS LECODERMIS.****Western black raspberry.****11514. RUBUS OCCIDENTALIS.****Black raspberry.***Newman's Thornless.***11515. RUBUS NIGROBACCUS.****Blackberry.****11516. RUBUS hyb.****Raspberry-blackberry hyb.***The Mahdi.***11517 and 11518. ROSA spp.****Rose.****11517. Alice Grahame.****11518. Bessie Brown.****11519. ROSA HUMILIS.****Pasture rose.****11520 to 11531. ROSA spp.****Rose.****11520. Edith D'Ombrain.****11526. Mildred Grant.****11521. Florence Pimberton.****11527. Morning Glow.****11522. Lady Moyra Beaucherc.****11528. Mrs. Allen Chandler.****11523. Madame Antoine Mari.****11529. Mrs. Benjamin R. Cant.****11524. Marianne Pfitzer.****11530. Queen of Sweden and Norway.****11525. Marie Lavälley.****11531. Salmoena.****11532. ARACHIS HYPOGAEA.****Peanut.**

From Sao Paulo, Brazil. Received thru Dr. Horace M. Lane, president of the Mackenzie College, July 16, 1904.

Pods of a peanut, said to be native, but which Doctor Lane thinks may be of African origin. The pods are of fair size and nearly all contain two seeds.

**11533. POLIANTHES LONGIFLORA.****Tuberose.**

From Mexico. Received thru Dr. J. N. Rose, of the United States National Museum, August 5, 1904.

**11534. ACHRAS SAPOTA.****Sapodilla.**

Plants propagated from large tree in Department conservatory; numbered for convenience in recording future distribution, August 1, 1904.

**11535. RICHARDIA AFRICANA.****Calla.**

From Chicago, Ill. Received thru Vaughan's seed store, August 10, 1904.

Trade name, *Calla Aethiopica devoniensis*.

**11536 to 11538. ROSA sp.****Rose.**

From London, England. Received thru Barr & Sons, June, 1903.

**11536.** *Austrian Copper Brier.*

**11538.** *Persian Yellow Brier.*

**11537.** *Harisoni Brier.*

**11539 to 11564.**

From Feltham, Middlesex, England. Received thru Mr. Thomas S. Ware, Hale Farm Nurseries, August, 1903.

Plants, as follows:

**11539 to 11563. CLEMATIS spp.****Clematis.**

**11539.** *Madame Édouard André.*

**11553.** *Gem.*

**11540.** *Grace Darling.*

**11554.** *Gipsy Queen.*

**11541.** *Alexandra.*

**11555.** *Gloire de St. Julien.*

**11542.** *Anderson Henryi.*

**11556.** *Grand Duchess.*

**11543.** *Ascontiensis.*

**11557.** *CLEMATIS RETICULATA.*

**11544.** *Beauty of Worcester.*

**11558.** *CLEMATIS JACKMANNI ALBA.*

**11545.** *Duchess of Edinburgh.*

**11559.** *CLEMATIS JACKMANNI.*

**11546.** *Duke of Edinburgh.*

*Snow White.*

**11547.** *Earl of Beaconsfield.*

**11560.** *CLEMATIS JACKMANNI.*

**11548.** *Enchantress.*

*Superba.*

**11549.** *Nellie Moser.*

**11561.** *John Gould.*

**11550.** *Fairy Queen.*

**11562.** *Lawsoniana.*

**11551.** *Fair Rosamond.*

**11563.** *Marcel Moser.*

**11552.** *CLEMATIS FORTUNEI.*

**11564. AMPELOPSIS VEITCHII PURPUREA.****11565 to 11589. LILIUM spp.****Lily.**

From Yokohama, Japan. Received thru Suzuki & Iida, New York agents for the Yokohama Nursery Company, December, 1903.

Bulbs as follows:

**11565.** *LILIUM BATMANNIAE.*

**11570.** *LILIUM CORDIFOLIUM.*

**11566.** *LILIUM CONCOLOR.*

**11571.** *LILIUM ELEGANS.*

**11567.** *LILIUM CONCOLOR OHIME.*

**11572.** *LILIUM ELEGANS.*

**11568.** *LILIUM CONCOLOR.*

**11573.** *LILIUM ELEGANS ATRO-SANGUINEUM.*

**11569.** *LILIUM CONCOLOR OKIHIME.*

**11574.** *LILIUM ELEGANS SEMI-PLENO.*



**11565 to 11589—Continued.**

11575. <i>LILIUM ELEGANS INCOMPARABLE.</i>	11583. <i>LILIUM LONGIFLORUM EXIMIUM GIGANTEUM.</i>
11576. <i>LILIUM DAHURICUM.</i>	11584. <i>LILIUM MEDEOLOIDES.</i>
11577. <i>LILIUM HANSONI.</i>	11585. <i>LILIUM SPECIOSUM RUBRUM.</i>
11578. <i>LILIUM JAPONICUM.</i>	11586. <i>LILIUM SPECIOSUM ALBUM.</i>
11579. <i>LILIUM RUBELLUM.</i>	11587. <i>LILIUM SPECIOSUM KRETZERI.</i>
11580. <i>LILIUM BROWNI.</i>	11588. <i>LILIUM SPECIOSUM MELPOMENE.</i>
11581. <i>LILIUM LEICHTLINII.</i>	11589. <i>LILIUM UKEYURI.</i>
11582. <i>LILIUM LONGIFLORUM.</i>	

**11590 and 11591. *LILIUM LONGIFLORUM EXIMIUM GIGANTEUM.* Lily.**

Grown from S. P. I. No. 11583 in the Department greenhouse.

11590. Bulbs.

11591. Seeds.

**11592 to 11602.**

From Guadalajara, Mexico. Received thru Mr. Federico Chisolm, July 11, 1904.  
Small lots of seeds of Guerrero plants, as follows:

11592. *ENTEROLOBIUM CYCLOCARPUM.*

"Parota."

"One of the most admirable shade trees I have ever seen, a rapid grower, and valuable for the easily worked but durable lumber it yields, as well as for the seeds, which are largely eaten by the natives at this season and are greedily eaten by hogs. The measurements of a specimen shading the assay office at 'La Trinidad' were about as follows: Trunk, from ground to branches, 12 feet; diameter, 4 feet; from ground to top of tree, 59 feet; extreme spread of branches from tip to tip, measured thru trunk, 122 feet; the general outline similar to that of an umbrella. To me it seems a tree well worth introducing." (*Chisolm.*)

11593 to 11602.

A collection of unidentified plants, mostly bulbs.

**11603 to 11623.**

From Fort Hays, Kans. Received thru Mr. J. G. Haney, superintendent of the Branch Agricultural Experiment Station, August 1, 1904.

11603 to 11617. *TRITICUM VULGARE.*

Wheat.

11603. *Kharkof.* Grown from S. P. I. No. 7786.

11604. *Beloglina.* Grown from S. P. I. No. 7787.

11605. *Ulla.* Grown from S. P. I. No. 5638.

11606. *Crimean.* Grown from S. P. I. No. 5636.

11607. *Ghirka Winter.* Grown from S. P. I. No. 5637.

11608. *Padui.* Grown from S. P. I. No. 7466.

11609. *Kharkof.* Grown from S. P. I. No. 5641.

11610. *Turkey.* Grown from C. I. No. 1558.

11611. *Crimean.* Grown from S. P. I. No. 5635.

11612. *Crimean.* Grown from C. I. No. 1559.

11613. *Banat.* Grown from S. P. I. No. 5496.

11614. *Bacska.* Grown from S. P. I. No. 5498.

11615. *Weissenburg.* Grown from S. P. I. No. 5499.

11616. *Pesterboden.* Grown from S. P. I. No. 5500.

11617. *Kharkof.* Grown from S. P. I. No. 7467.

**11603 to 11623—Continued.**

- 11618 and 11619.** *TRITICUM DURUM.* **Macaroni wheat.**  
**11618.** *Kubanka.* Grown from S. P. I. No. 9478.  
**11619.** \* *Velvet Don.* Grown from S. P. I. No. 9479.
- 11620 to 11623.** *HORDEUM* spp. **Barley.**  
**11620.** *HORDEUM VULGARE.* **Barley.**  
*Black.* Grown from S. P. I. No. 7970.  
**11621.** *HORDEUM VULGARE.* **Barley.**  
*White.* Grown from S. P. I. No. 7969.  
**11622.** *HORDEUM DISTICHUM NUTANS.* **Two-row barley.**  
*Hanna.* Grown from S. P. I. No. 9133.  
**11623.** *HORDEUM TETRASTICHUM.* **Four-row barley.**  
*Tetcherit.* Grown from S. P. I. No. 7796.

**11624. CERCIDIPHYLLUM JAPONICUM.**

From Philadelphia, Pa. Received thru Thomas Meehan & Sons, 1903.

Plants purchased to test as stocks for the mango. The scions failed to unite.

**11625. MANGIFERA INDICA.****Mango.**

From Tahiti. Received thru Captain Rennie, of the steamship *Mariposa*, August 11, 1904.

**11626 and 11627. (Undetermined.)**

From Guadalajara, Mexico. Received thru Mr. Federico Chisolm, August 13, 1904.

**11628. HICORIA hyb.****Pecan.**

From Washington, D. C. Received thru Mr. P. H. Dorsett, February, 1904.

From pecans purchased in the open market. Has the appearance of a hybrid between *Hicoria pecan* and *Hicoria aquatica*. Planted in the Plant Introduction Garden at Chico, Cal., May 31, 1904.

**11629. ACTINIDIA sp.****"Yang-taw."**

From the borders of Yunnan. Received thru Consul-General Wilcox, of Hankow, China, and Mr. Wilson, at the Plant Introduction Garden, Chico, Cal., July 8, 1904.

Fruit said to be very fine, has flavor of gooseberry, fig, and citron. Sometimes called "Yang-tao."

**11630. ACTINIDIA sp.****"Yang-taw."**

From the borders of Yunnan. Received thru Consul-General Wilcox, of Hankow, China, and Mr. Wilson, at the Plant Introduction Garden, Chico, Cal., July 8, 1904.

Possibly distinct from No. 11629, tho as yet undetermined.

**11631. ERIOBOTRYA JAPONICA.****Loquat.**

From Orange, Cal. Collected by Mr. M. Payan, of Olive, Cal., from the orchard of Mr. C. P. Taft, Orange, Cal. Received at the Plant Introduction Garden, Chico, Cal., July 18, 1904.

**11632. ACHRAS SAPOTA (?).****Sapodilla.**

From Jalapa, Vera Cruz, Mexico. Received thru Mr. Frank N. Meyer at the Plant Introduction Garden at Chico, Cal., June, 1904.

"A nice tasting fruit, in size and shape not unlike the eastern persimmon. The pulp is brownish and of a sweet, pleasant taste." (*Meyer.*)

**11633. PRUNUS ARMENIACA.****Apricot.**

From Jalapa, Vera Cruz, Mexico. Received thru Mr. Frank N. Meyer at the Plant Introduction Garden at Chico, Cal., June, 1904.

"These apricots are small in size but have sometimes a nice flavor. They seem to be all seedlings and vary, it is said, a great deal." (*Meyer.*)

**11634. CICER ARIETINUM.****Chick-pea.**

From Jalapa, Vera Cruz, Mexico. Received thru Mr. Frank N. Meyer at the Plant Introduction Garden at Chico, Cal., June, 1904.

"A vegetable which is eaten like green peas. On some markets they are sold roasted in the shell, and they taste well. Grown on dry but rich lands." (*Meyer.*)

**11635. FRAXINUS sp.****Ash.**

From Mexico. Received thru Mr. Frank N. Meyer at the Plant Introduction Garden at Chico, Cal., June, 1904.

"A very handsome shade tree, which grows to quite a size. These seeds are from a very spreading variety which grew on dry, rocky places near Guadalajara." (*Meyer.*)

**11636. PRUNUS sp.****Cherry.**

From Jalapa, Vera Cruz, Mexico. Received thru Mr. Frank N. Meyer at the Plant Introduction Garden at Chico, Cal., June, 1904.

"This is a cherry inferior in size and flavor to the ordinary cherry. The tree is evergreen and can be used as an ornamental shade tree." (*Meyer.*)

**11637. LUPINUS sp.****Lupine.**

From Jalapa, Vera Cruz, Mexico. Received thru Mr. Frank N. Meyer at the Plant Introduction Garden at Chico, Cal., June, 1904.

"A rather ornamental small lupine, with blue spikes, which vary in color from whitish to indigo blue." (*Meyer.*)

**11638. RICINUS sp.****Castor-oil plant.**

From Jalapa, Vera Cruz, Mexico. Received thru Mr. Frank N. Meyer at the Plant Introduction Garden at Chico, Cal., June, 1904.

"A castor-oil bean with very showy red spikes. May prove to be an ornamental plant." (*Meyer.*)

**11639. CAPSICUM ANNUM.****Pepper.**

From Jalapa, Vera Cruz, Mexico. Received thru Mr. Frank N. Meyer at the Plant Introduction Garden at Chico, Cal., June, 1904.

*Yellow Chili.* "A handsome pepper, much sold in the market at Jalapa, a bright, showy yellow, quite pungent in taste." (*Meyer.*)

**11640. AGROSTIS ALBA.****Redtop.**

From New York, N. Y. Received thru Henry Nungesser & Co., August 16, 1904.

**11641 to 11644.**

From Nice, Alpes-Maritimes, France. Received thru Dr. A. Robertson-Proschowsky, August 1, 1904.

**11641. ARUNDINARIA SIMONI.****Bamboo.**

"A small bamboo, producing good, edible seeds. This small bamboo does not, as some others, die altogether after producing its seeds, but some rhizomes survive. Still perhaps it is too early to judge of the survival of such. As you will find, the large seeds are of very good taste, and evidently could be used

**11641 to 11644—Continued.**

as well as wheat, barley, and other grains. This bamboo is very resistant to drought. Would it eventually be a plant of any other than ornamental use? Perhaps some of your active and enterprising correspondents in the United States would care to try this plant." (*Proschowsky.*)

**11642. JACARANDA OVALIFOLIA.**

"The well-known tree of most striking beauty of foliage and flower. The timber is very strong. Resists very in dry places." (*Proschowsky.*)

**11643. ALOË DICHOTOMA.**

"Forms a picturesque tree of medicinal value." (*Proschowsky.*)

**11644. PITTOSPORUM MACROPHYLLUM.**

"This is a tree of very regular growth and striking beauty. Its leaves are nearly as large as those of *Magnolia grandiflora* L. But its chief merit consists in its beautiful creamy-white flowers, which exhale a perfume surpassing that of any other plant I know, even the orange and lemon. I should think that the extraction of this perfume would prove a paying undertaking." (*Proschowsky.*)

**11645 and 11646. MANGIFERA spp.**

From Saigon, Cochin China. Received thru Mr. M. E. Haffner, director of agriculture, August 20, 1904.

Seeds as follows:

**11645. MANGIFERA CAMBODIANA.****11646. MANGIFERA MEKONGENSIS.****11647. MUSA sp.****Banana.**

From Monte, Grand Canary. Received thru Mr. Alaricus Delmard, August 22, 1904.

**11648. MAMMEA AMERICANA.****Mammee apple.**

From Mayaguez, P. R. Received thru Mr. O. W. Barrett, Agricultural Experiment Station, August 22, 1904.

For use in mangosteen experiments.

**11649. LILIUM NEILGHERRENSE.****Neilgherry lily.**

From Utakamand, India. Received thru Mr. G. H. Cave, superintendent of the Government Botanic Gardens, August 19, 1904.

**11650. TRITICUM DICOCCUM.****Emmer.**

From Paris, France. Received thru Vilmorin-Andrieux & Co., August 27, 1904.

*Amidonnier noir.*

**11651 and 11652. MEDICAGO SATIVA.****Alfalfa.**

From City of Mexico, Mexico. Received thru Mr. Felix Foëx, National School of Agriculture, August 24, 1904.

**11651. *Alfisco*, from State of Pueblo.****11652. *Apatex*, from State of Guanajuato.****11653. CALOPHYLLUM CALABA.**

From Honolulu, Hawaii. Received thru Mr. Gerrit P. Wilder, August 29, 1904.

For experiments in propagating the mangosteen.

**11654. LANDOLPHIA sp. (?).**

From Africa. Presented thru Mr. G. N. Collins by Mr. Gilbert Christy. Received August 31, 1904.

**11655. AVENA SATIVA.****Oat.**

From Statesville, N. C. Received thru Dr. B. W. Kilgore, of the North Carolina Agricultural Experiment Station, September 2, 1904.

**11656. THEOBROMA CACAO.****Cacao.**

From Nicoya, Costa Rica. Received thru Mr. G. N. Collins, June, 1903.  
(G. & G. No. 3979.)

**11657. CASTILLOA NICOYENSIS.****Central American rubber.**

From Nicoya, Costa Rica. Received thru Mr. G. N. Collins, June, 1903.  
(G. & G. No. 3980.)

**11658. HORDEUM VULGARE.****Barley.**

From Blacksburg, Va. Received thru Mr. John R. Fain, September 7, 1904.  
*Tennessee Winter barley*, shipped from Jefferson City, Tenn.

**11659. THEVETIA OVATA (?)**

From Guadalajara, Mexico. Received from Mr. Federico Chisolm, September 3, 1904.

**11660. HELIANTHUS sp.****Sunflower.**

From Bozeman, Mont. Received from the Montana Agricultural Experiment Station, August 29, 1904.

**11661 to 11673. CITRUS DECUMANA.****Pomelo.**

From Calcutta, India. Originally from Mr. David Prain, of the Royal Botanic Garden. Presented to the Department by Mr. Henry Phipps, 6 East Eighty-seventh street, New York, N. Y. Received September 8, 1904.

Plants as follows:

11661. "Large White-Fleshed," from Seharunpur.

11662. "Large Red-Fleshed," from Seharunpur.

11663. "China," from Seharunpur.

11664. "Pure White Sweet," from Bangalore.

11665. "White Sweet," from Bangalore.

11666. "Red Sweet Variety," from Bangalore.

11667. "White Sour," from Bangalore.

11668. "Large," from Lucknow.

11669. "Small," from Lucknow.

11670. "White," from the Agricultural-Horticultural Society, Alipore, Calcutta, India.

11671. "A. H. Society's," from the Agricultural-Horticultural Society, Alipore, Calcutta, India.

11672. "Pink," from the Agricultural-Horticultural Society, Alipore, Calcutta, India.

11673. "Royal Botanic Garden" variety, from Calcutta.

**11674. VITIS COIGNETIAE.****Crimson glory vine.**

From New York, N. Y. Received thru Messrs. Henry & Lee, 97 Water street, September 9, 1904.

**11675. ANANAS SATIVUS.****Pineapple.**

Received September 9, 1904. (Mailed from some point in Liberia, but origin unknown.)



- 11676. BALSAMORRHIZA sp. Balsam root.**  
From Bozeman, Mont. Received thru Mr. A. J. Pieters, August, 1904.
- 11677. VICIA SATIVA. Common vetch.**  
From New York, N. Y. Received thru J. M. Thorburn & Co., 36 Cortlandt street, September, 1904.
- 11678. HORDEUM VULGARE. Barley.**  
From St. Anthony Park, Minn. Received thru Prof. W. M. Hays, of the Agricultural Experiment Station, September, 1904.
- 11679. VICIA SATIVA. Common vetch.**  
From Richmond, Va. Received thru T. W. Wood & Sons, September, 1904.
- 11680. VICIA VILLOSA. Hairy vetch.**  
From Richmond, Va. Received thru T. W. Wood & Sons, September, 1904.
- 11681. BRUCEA SUMATRANA. "Kosam."**  
From Singapore, Straits Settlements. Received from the Botanic Gardens, thru the German consulate, September 12, 1904.  
The fruit of this plant is said to be an infallible remedy for dysentery.
- 11682. LIPPIA REPENS.**  
From Santa Barbara, Cal. Received thru Dr. F. Franceschi at the Plant Introduction Garden, Chico, Cal., August 26, 1904.  
"Thrives in any soil, no matter how poor. Rapidly covers the ground with a very dense matting. Takes one-tenth as much water as any lawn; needs no mowing; will stand intense heat and several degrees of cold. Can be established in sloping ground." (*Franceschi.*) (See S. P. I. No. 4263.)
- 11683. HUMULUS LUPULUS. Hop.**  
From Wheatland, Cal. Received at the Plant Introduction Garden, Chico, Cal., August 15, 1904.
- 11684. BRASSICA NAPUS. Rape.**  
From New York, N. Y. Received thru Henry Nungesser & Co., September 15, 1904.  
*Dwarf Essex.*
- 11685 to 11696.**  
From Guadalajara, Mexico. Received thru Mr. Federico Chisolm, September 19, 1904.  
Miscellaneous seeds and bulbs, mostly unidentified.
- 11697. VICIA FABA. Horse bean.**  
From Ottawa, Canada. Received thru Graham Brothers, September 21, 1904.  
*Tick.*
- 11698 to 11713. MANIHOT spp. Cassava.**  
From Sao Paulo, Brazil. Received thru Prof. Alberto Löfgren, director of the Botanic Gardens, September 24, 1904.

**11698 to 11713—Continued.**

Cuttings, as follows:

11698.	<i>Globo.</i>	11707.	<i>Aipim Doce.</i>
11699.	<i>Vermelha do Pinhal.</i>	11708.	<i>Amarella.</i>
11700.	<i>Bocava Brava.</i> (Poisonous.)	11709.	<i>Cambalho Brava.</i>
11701.	<i>Tatu.</i>	11710.	<i>Mata Fome II.</i>
11702.	<i>Aipim Amarello.</i>	11711.	<i>Rosa.</i>
11703.	<i>Vermelha.</i>	11712.	<i>Sao Tedrinho.</i> (Very poisonous.)
11704.	<i>Branca.</i>	11713.	<i>Ilapira Brava.</i> (Poisonous.)
11705.	<i>Mata Fome.</i>		
11706.	<i>Barra Bonita.</i>		

**11714. TRITICUM VULGARE.****Wheat.**

From Tempe, Ariz. Received thru Mr. John Jungerman, September 26, 1904.

*Fretes.* Grown from S. P. I. No. 7582.**11715. TRITICUM DURUM.****Macaroni wheat.**

From Tempe, Ariz. Received thru Mr. John Jungerman, September 26, 1904.

*Marouani.* Grown from S. P. I. No. 9324.**11716 and 11717. HORDEUM TETRASTICHUM.****Four-row barley.**

From Tempe, Ariz. Received thru Mr. John Jungerman, September 26, 1904.

11716. *Beldi.* Grown from S. P. I. No. 7583.11717. *Telli.* Grown from S. P. I. No. 7584.**11718 and 11719. LIATRIS SCARIOZA.****Button snakeroot.**

From Minneapolis, Minn. Presented by Prof. E. M. Freeman. Received September 22, 1904.

11718. Roots or corns.

11719. Seed.

**11720. SICANA ODORIFERA.**

From Trinidad, British West Indies. Presented by Mr. J. H. Hart, superintendent of the Royal Botanic Gardens. Received September 20, 1904.

**11721. GARCINIA CELEBICA.**

From Buitenzorg, Java, Dutch East Indies. Presented by Doctor Treub, September 28, 1904.

**11722. AVENA SATIVA.****Oat.**

From Yancey, Ga. Purchased from Mr. H. Yancey, jr. Received September 28, 1904.

*Appler Rustproof.***11723. IPOMOEA PES-CAPRAE.**

From Durban, Natal. Presented by Mr. J. L. Elmore, agent and importer of American goods, Third avenue. Received September 30, 1904.

"These small seeds and pods grow here on the sand next to the seashore, and greatly retard the sand from blowing inland. They grow on runners as much as 30 feet in length, every few feet throwing up stems with large green leaves a foot above the sand, thus preventing the sand from shifting." (*Elmore.*)

**11724. PERSEA GRATISSIMA.****Avocado.**

From Durban, Natal. Presented by Mr. J. L. Elmore. Received September 30, 1904, in same package with No. 11723.

"These pears have only been introduced into this country for a few years, and are proving a source of great revenue. The trees are strong and healthy, and bear after about five years' growth—grow as well from seeds as grafted ones. When in season prices range here for the fruit from 50 cents to \$2 per dozen. The fruit never ripens on the tree, but soon ripens after it is full grown and picked and laid aside for a few days. This fruit can be transported any distance, as it is perfectly hard when pulled and does not soften for some days. After being laid aside for a few days they become soft and then are edible. The flesh is about one-half inch in thickness, and when ripe of a light yellow shading to a pea green next to the skin, and if eaten with a little sugar and milk is like rich cream. Some prefer salt and pepper and a little vinegar; others nothing at all. I know of people here who eat no meat when these pears are in season. The trees grow in a sandy soil to a good size, and I think they would grow in the Southern States and California." (*Elmore.*)

**11725. GARCINIA MANGOSTANA.****Mangosteen.**

From Saigon, Cochin China. Presented by Dr. M. E. Haffner, director of the Botanic Gardens. Received October 3, 1904.

**11726. PSIDIUM GUAJAVA.****Guava.**

From Trinidad, British West Indies. Presented by Mr. J. H. Hart, superintendent of the Royal Botanic Gardens. Received October 3, 1904.

A large red guava. Fruit of this variety is reputed to weigh at the rate of three to a pound. (*Hart.*)

**11727. PANICUM DECOMPOSITUM.****Australian millet.**

From Sydney, New South Wales. Presented by Mr. J. H. Maiden, director of the Botanic Gardens. Received October 4, 1904.

"From the dry interior of southwestern Queensland. The seed was collected by the blacks, who use it largely for food, while the grass itself is one of the best fodder grasses of Australia." (*Maiden.*) (See Maiden's *Useful Native Plants of Australia*, p. 97.)

**11728 to 11730. LILIUM LONGIFLORUM EXIMEUM.****Easter lily.**

From New York, N. Y. Received thru Henry & Lee, August 3, 1904.

**11728.** Bermuda-grown bulbs.

**11730.** Japan-grown bulbs.

**11729.** Azores-grown bulbs.

**11731. TRITICUM sp.****Wheat.**

From Germany. Presented by Mr. A. Kirsche, Pfiffelbach, near Apolda, thru Mr. J. E. W. Tracy. Received September 30, 1904.

Original *Winter Square Head*.

**11732. GARCINIA MANGOSTANA.****Mangosteen.**

From Singapore, Straits Settlements. Presented by Mr. R. Derry, assistant superintendent of the Botanic Gardens. Received November 18, 1904.

**11733. ASPARAGUS VIRGATUS.****Asparagus.**

From Durban, Natal, South Africa. Presented by Mr. J. Medley Wood, curator of the Botanic Gardens. Received November 18, 1904.

"A native Natal asparagus, which is said to produce edible shoots of good quality. The plant does not require so much care as the cultivated asparagus, and may therefore prove of value for breeding purposes." (*Wood.*)

**11734. CARISSA ARDUINA.****Amatungulu.**

From Natal, South Africa. Presented by Mr. J. Medley Wood, curator of the Botanic Gardens, Durban. Received August 8, 1904.

"A food plant of considerable importance in Natal, where it is found in large quantities on the market, and from which is made a very valuable jelly. The plant, grown in hedge form in and about the city of Durban, is a handsome thing; its large white flowers and crimson fruits stand out in beautiful contrast with the background of dark-green foliage." (*Fairchild.*)

**11735. SECALE CEREALE.****Rye.**

From Steglitz, near Berlin, Germany. Received thru Metz & Co., October 6, 1904.

Original *Professor Heinrich.*

**11736. EUCALYPTUS CORYNOCALYX.****Sugar gum tree.**

From Pomona, Cal. Received thru Mr. G. W. Kuesthardt, November 11, 1904.

**11737. POA PRATENSIS.****Kentucky bluegrass.**

From New York, N. Y. Received thru J. M. Thorburn & Co., October 10, 1904.

**11738. VICIA SATIVA.****Common vetch.**

From New York, N. Y. Received thru J. M. Thorburn & Co., October 10, 1904.

**11739. THYSANOLAENA AGROSTIS.**

From Sibpur, near Calcutta, India. Presented by the Royal Botanic Garden. Received August 3, 1904.

See S. P. I. No. 8445 for a description of this extremely ornamental flowering cane.

**11740. PENTZIA VIRGATA.**

From Oatlands, South Africa. Received thru Messrs. Lathrop and Fairchild (No. 1138, March, 1903), August 1, 1904. (See No. 10635.)

**11741 and 11742. CAPSICUM ANNUM.****Paprika pepper.**

From Bridgeport, Ala. Grown by the Botanic Drug Company. Received August 29, 1904.

11741. *Szegeed Rose*, grown from S. P. I. No. 10755.

11742. Large, red, long *Hungarian*, grown from S. P. I. No. 10756.

**11743 to 11757.**

From Melbourne, Australia. Presented by Mr. William Robert Guilfoyle, director of the Botanic Gardens. Received July, 1904.

Sample packets of seed as follows:

11743. ACACIA LONGIFOLIA.

11751. PANAX ELEGANS.

11744. ACACIA PROMINENS.

11752. PITTOSPORUM BUCHAN-  
ANI.

11745. CARPODETUS SERRATUS.

11753. PITTOSPORUM UNDULA-  
TUM.

11746. EUTELEA ARBORESCENS.

11754. STERCULIA ACERIFOLIA.

11747. EUCALYPTUS BOTRYOIDES.

11755. STERCULIA DIVERSIFOLIA.

11748. EUCALYPTUS LONGIFOLIA.

11756. SYNCARPIA LAURIFOLIA.

11749. GREVILLEA ROBUSTA.

11757. TRISTANIA LAURINA.

11750. HYMENOSPORUM FLAVUM.

**11758. ULEX EUROPAEUS.****Gorse, whin, or furze.**

From Dublin, Ireland. Presented by Hogg & Robertson, seedsmen. Received in June, 1904.

"This plant is used extensively in northern France, England, and Ireland as a fodder plant. It is not cultivated there; however. Shredders are used for preparing it for stock, and, according to Mr. J. B. Blandy, of Funchal, Madeira, who uses it extensively, it is a most valuable plant for barren soils where other things will not grow." (*Fairchild.*)

**11759. VICIA FABA.****Horse bean.**

From Montreal, Canada. Received thru Prof. W. T. Macoum, horticulturist, Central Experiment Farm, Ottawa, Canada, from William Ewing & Co., October 12, 1904.

**11760. SECALE CEREALE.****Rye.**

From Waterloo, Kans. Received thru Mr. J. Elza Dodge, October 14, 1904.

Grown from S. P. I. No. 1342.

**11761 and 11762. ALLIUM CEPA.****Onion.**

From Teneriffe, Canary Islands. Presented by United States Consul Solomon Berliner. Received October 6, 1904.

**11761.** *White.*

**11762.** *Red.*

**11763. VICIA VILLOSA.****Hairy vetch.**

From Augusta, Ga. Received thru the N. L. Willet Drug Company, October 15, 1904.

**11764. VICIA SATIVA.****Common vetch.**

From New York, N. Y. Received thru J. M. Thorburn & Co., October 19, 1904.

**11765. PERSEA CAROLINENSIS.****Red bay, or swamp bay.**

From New Orleans, La. Presented by Mr. Edward Baker, superintendent of Audubon Park. Received October 17, 1904.

"In regions where the avocado (*Persea gratissima*) can be grown, but which are subject at long intervals to heavy, killing frosts, this relative of the latter may prove valuable as a stock on which to graft it. It may also be of use for breeding purposes." (*Fairchild.*)

**11766 to 11768.**

From Honolulu, Hawaii. Presented by Mr. Gerrit P. Wilder. Received October 14, 1904.

Specimen fruits as follows:

**11766.** *MANGIFERA INDICA.*

**Mango.**

"Very fine specimen, grown on the premises of Mr. W. C. Parke, of Honolulu. Considered one of our best mangos here." (*Wilder.*)

**11767.** (Unidentified.)

**11768.** (Unidentified.)

**11769. CEDRELA ODORATA.**

From Buenos Aires, Argentine Republic. Presented by Mr. Carlos Thays, director of the Jardin Botanico. Received October 22, 1904.

"This plant belongs to a group of trees which Dr. F. Franceschi, of Santa Barbara, Cal., has been studying for some time. He remarks in a letter of September 20, 1903, as follows: 'The Cedrela I consider among the most interesting of the trees which I have tried here, and remarkably so *C. fissilis*, which makes a wonderful growth and



appears to be much hardier than its native habitat would warrant.' The use of the timber of this species of *Cedrela* for cigar boxes makes the plants of unusual interest to southern California, where they will grow unusually well." (*Fairchild.*)

**11770. GAILLARDIA sp.**

**Gaillardia.**

From Big Stone City, S. Dak. Collected by Mr. A. J. Pieters, August, 1904.

"Sample of seed of a *Gaillardia* with rose-purple rays. Low-growing perennial (?). Flowers borne on peduncle arising from the base of the plant, and usually from a foot to 18 inches high. May be a good thing for crossing with other *Gaillardias*, but not a sufficiently profuse bloomer by itself." (*Pieters.*)

**11771. CHRYSOPSIS HISPIDA.**

**Golden aster.**

From Dawson, N. Dak. Collected by Mr. A. J. Pieters, August, 1904.

"Found blooming at Dawson, N. Dak., and thruout that country during late August, 1904. Calyx scales glutinous, flowers yellow." (*Pieters.*)

**11772. LIATRIS sp.**

**Button snakeroot.**

From near Fargo, N. Dak. Collected by Mr. A. J. Pieters, August, 1904.

"Seed of a fine perennial for the herbaceous border. Grows 2 to 3 feet high and bears a fine spike with purple flowers." (*Pieters.*)

**11773. HELIANTHUS sp.**

**Sunflower.**

From Dawson, N. Dak. Collected by Mr. A. J. Pieters, August, 1904.

"Practically the same type as that known in the trade as *Stella*. Varies in size from 12 inches to 4 feet or more, depending on soil and moisture." (*Pieters.*)

**11774. CUCUMIS sp.**

**Melon.**

From province of Esmeraldas, Ecuador. Presented by Mr. George D. Hedian. Received September 20, 1904.

"Fruit grows to a size of 48 to 50 cm. in length; yellow when ripe, and pulp resembles that of muskmelon. Has fragrant odor when ripening." (*Hedian.*)

**11775. GOSSYPIUM sp.**

**Cotton.**

From province of Esmeraldas, Ecuador. Presented by Mr. George D. Hedian. Received September 20, 1904.

**11776. GOSSYPIUM sp.**

**Cotton.**

From province of Esmeraldas, Ecuador. Presented by Mr. George D. Hedian. Received September 20, 1904.

This cotton seed in bolls grows 8 feet high and buds in six months.

**11777. AMYGDALUS PERSICA.**

**Nectarine.**

From Kashgar, Kashmir, British India. Presented by Rev. P. J. P. Hendriks. Received October 24, 1904.

"Collected in the latter part of July by Mr. Hendriks at Kashgar and forwarded by parcel post. Mr. Hendriks remarks in his letter of July 23 that 'they want a hot but only a short summer, and as walnuts are ripening in Washington I am confident that they will come all right. You may call them *Crosby* nectarines. I am quite sure they will make a fine acquisition to any orchard.'

"In compliance with the wish of the donor, if these nectarines prove in any way remarkable they should be named in honor of Mr. O. T. Crosby, to whom we are indebted for putting us in communication with Mr. Hendriks." (*Fairchild.*)

**11778. PISTACIA VERA.****Pistache.**

From Kashgar, Kashmir, British India. Presented by Rev. P. J. P. Hendriks. Received October 24, 1904.

"These seeds were collected by Mr. Hendriks from the bazaar in Kashgar. He is afraid they will have lost their germinative power, but as they come from the hot valleys of Badakhshan, west of the Pamirs, they may prove a different strain from those introduced from the Levant and to be of unusual value. These were received by parcels post thru Latham & Co., of Bombay, India. Larger shipments must be sent by caravan from Kashgar to Ladak, thence by caravan to Kashmir, thence to Rawlpindi and by rail to Bombay. The costs of transit would be about 2 rupees per kilogram and the time required about two months." (*Fairchild.*)

**11779. MANGIFERA INDICA.****Mango.**

From Beira, East Africa. Presented by Hon. Arthur W. H. Glenney, United States consular agent, Beira, East Africa.

*Lathrop.* See description of No. 9669.

**11780. HORDEUM VULGARE.****Barley.**

From McPherson, Kans. Received thru Mr. L. A. Fitz, October 25, 1904.

*Tennessee Winter.*

**11781. SESBANIA MACROCARPA.**

From Tucson, Ariz. Received thru Prof. R. H. Forbes, director of the Agricultural Experiment Station, October 25, 1904.

"I am convinced from its very shallow root system that it will probably only prove useful in a situation where it can be constantly and abundantly irrigated, altho it is possible that its rooting habits may be modified by new cultural conditions." (*Forbes.*)

**11782. TRIFOLIUM ALEXANDRINUM.****Berseem.**

From Cairo, Egypt. Received thru Mr. George P. Foaden, secretary of the Khedivial Agricultural Society, October 26, 1904.

*Fachl.*

**11783. NUPHAR POLYSEPALUM. Red-anthered yellow water lily.**

From Bozeman, Mont. Presented by Dr. J. W. Blankinship. Received October 27, 1904.

"An unusual species of pond lily, with red anthers somewhat resembling large petals. As this has never, so far as we are aware, been brought under cultivation, it is thought by Mr. Peter Bisset, of "Twin Oaks," Washington, D. C., to be of possible value for breeding purposes. Coming from the northern latitude of Montana, it will prove perfectly hardy in any part of the United States." (*Fairchild.*)

**11784. GARCINIA XANTHOCHYMUS.**

From Peradeniya, Ceylon. Presented by Dr. John C. Willis, director of the Royal Botanic Gardens. Received October 29, 1904.

**11785 to 11790. GARCINIA spp.**

From Peradeniya, Ceylon. Received thru Dr. John C. Willis, director of the Royal Botanic Gardens, October 31, 1904.

**11785.** G. CAMBOGIA=G. COWA.

**11788.** G. XANTHOCHYMUS.

**11786.** G. MANGOSTANA.

**11789.** G. SPICATA.

**11787.** G. CAMBOGIA=G. COWA.

**11790.** G. MORELLA.

**11791. VICIA SATIVA.****Common vetch.**

From Corvallis, Oreg. Received thru Mr. John Whitaker, October 31, 1904.

**11792. CAESALPINIA BREVIFOLIA.****Algarobillo.**

From Santiago, Chile. Presented by Señor Salvadore Izquierdo. Received September 19, 1904.

The tanning material, which exists in the form of a resinous substance permeating the seed pods of this plant, has recently attracted the serious attention of European tanners, and the imports of it into Germany have of recent years very considerably increased. It is said to be very quick in its action and to be used in the tanning of delicate leathers. American tanners are not familiar with this tanning substance as yet, but some of the principal importers in New York are interested in its introduction. The shrub which bears the pods should be of particular interest to the extremely arid regions of the Southwestern States from the fact that it comes from the high altitudes of the Andes of northern Chile, where the season's rainfall is extremely light and where long periods of hot, dry weather occur. The plant has a long taproot, which will make it difficult to transplant, and it is recommended by Señor Izquierdo that the seeds be planted out where the plants are expected to remain. According to Señor Izquierdo's estimate, 2,000 plants could be easily grown on an acre of soil. Trees 6 to 8 years old are said to yield from 6 to 8 pounds of pods, which sell at a price ranging from 4 to 6 cents a pound. It is said that the plant is injured by heavy spring frosts, but is otherwise a robust, vigorous growing species. (See S. P. I., 10631.)

**11793. ANDROPOGON SORGHUM.****Sorghum.**

From Durban, Natal, South Africa. Presented by Mr. R. W. Beningfield. Received August 24, 1904.

Mr. Beningfield says that this sorghum was self-sown in his garden in Durban.

**11794. LILIUM LONGIFLORUM MULTIFLORUM.****Japanese lily.**

From New York, N. Y. Received thru Henry & Lee, November 9, 1904.

**11795. SAPIUM SEBIFERUM.****Tallow tree.**

From China. Presented by Dr. C. L. Marlatt to Dr. B. T. Galloway. Planted in October, 1903.

Chinese name "Sa-men."

**11796. UCUMIS MELO.****Muskmelon.**

From California. Received in 1902. Exact source is not known.

Genuine *Bidwell Casaba* muskmelon seed, turned over to this Office by Mr. W. W. Tracy, sr.

**11797. MACADAMIA TERNIFOLIA.****Australian nut.**

From Sydney, New South Wales. Presented by Mr. J. H. Maiden, director of the Botanic Gardens. Received November 5, 1904.

**11798. PAPAVER SOMNIFERUM × BRACTEATUM.****Hybrid poppy.**

From Santa Rosa, Cal. Presented by Mr. Luther Burbank. Received November 7, 1904.

**11799. THEVETIA CUNEIFOLIA.****Trumpet flower.**

From Guadalajara, Mexico. Presented by Mr. Federico Chisolm. Received November 7, 1904.

**11800. PANICUM MAXIMUM.****Guinea grass.**

From Mayaguez, P. R. Received thru Mr. O. W. Barrett, of the Agricultural Experiment Station, November 8, 1904.

"Tho it produces viable seeds, this famous grass is usually propagated by division of the root clumps." (*Barrett.*)

**11801 to 11996. PHOENIX DACTYLIFERA.****Date.**

From Hofhuf, El-Hasa, Turkish Arabia. Received thru Rev. S. M. Zwemer and secured by Mr. J. Calcott Gaskin, of the British Assistant Political Agency, Bahrein Island, Persian Gulf, November 7, 1904.

According to Mr. Gaskin's letter, the following varieties were received: *Khalas*, *Rezeiz*, *Shebib*, *Khîr*, *Hatmi*, *Sheishi*, *Mehmi*, *Kheneizi*, *Tenâjûl*, and *Mejnaz*. These names, however, did not agree with those found on the labels accompanying the plants, which were placed there by the Arabs and most of which were lost. In order to avoid confusion each sucker was given a separate number in hopes that they might be correctly identified from descriptions of these varieties when they come into bearing.

**11997. SEQUOIA WELLINGTONIA.****Bigtree.**

Origin unknown.

**11998. VICIA FABA.****Horse bean.**

From Gembloux, Belgium. Received thru Dr. Ach. Grégoire, Institut Chimique et Bactériologique de l'Etat, March 10, 1905.

"Seed of the Holland variety of horse bean grown extensively in Belgium and Holland as a fodder crop. This bean in the cool summers of northern Europe makes a growth of several feet and produces a succulent fodder which is harvested after the beans have ripened, and run thru a chopping machine which prepares it for the stock. The analyses of Doctor Grégoire have shown that there is a material increase in the amount of nutritious substances in this bean late in the season, making it advisable to cut it only after the beans have fully matured. The small size of the bean of this Dutch variety makes it especially desirable for field experiments where the item of seed transport is an important one.

"These should be tried extensively in Alaska and the Northwestern States as an early summer crop. They are likely also to be of value as a cover crop for orchards in the Northern States. Experiments in Canada have proved this horse bean to be the best cover crop yet tried in that region. It holds snow, prevents drifting, and adds a large amount of humus to the soil. In Belgium these beans are drilled in about 6 or 8 inches apart and produce a thick stand some 3 or 4 feet in height." (*Fairchild.*)

**11999 and 12000. NICOTIANA TABACUM.****Tobacco.**

From Constantinople, Turkey. Received thru Mr. Charles M. Dickinson, United States consul-general, March 9, 1905.

Seed from Xanthi district, as follows:

**11999.** Finest quality.

**12000.** Medium quality.

**12001 to 12018.**

From Fort Hays, Kans. Received thru Mr. J. G. Haney, superintendent of the Branch Experiment Station, November 7, 1904.

**12001 to 12015. TRITICUM VULGARE.****Wheat.**

**12001.** *Kharkof.* Grown from S. P. I. No. 7786. C. I. No. 2193.

**12002.** *Beloglino.* Grown from S. P. I. No. 7787. C. I. No. 1667.

**12003.** *Crimean.* Grown from S. P. I. No. 5636. C. I. No. 1437.

**12004.** *Theiss.* Grown from S. P. I. No. 5497. C. I. No. 1561.

**12005.** *Ulla.* Grown from S. P. I. No. 5638. C. I. No. 1439.

**12006.** *Ghirka.* Grown from S. P. I. No. 5637. C. I. No. 1438.

**12007.** *Crimean.* Grown from S. P. I. No. 5635. C. I. No. 1436.

**12008.** *Kharkof.* Grown from S. P. I. No. 7467. C. I. No. 1583.

**12009.** *Kharkof.* Grown from S. P. I. No. 5641. C. I. No. 1442.

**12001 to 12018 —Continued****12010. *Crimean.***

Grown from seed originally imported in quantity of over 14,000 bushels from the Crimea in 1901 by the millers of Kansas and Oklahoma. C. I. No. 1559.

**12011. *Banat.*** Grown from S. P. I. No. 5496. C. I. No. 1560.

**12012. *Bacska.*** Grown from S. P. I. No. 5498. C. I. No. 1562.

**12013. *Turkey.*** Grown from C. I. No. 1558.

The best grade of this variety was grown near Halstead, Kans., from seed originally from the Crimea. A sample was planted in the experiment plats at Halstead in the autumn of 1901 for future experiment.

**12014. *Weissenberg.*** Grown from S. P. I. No. 5499. C. I. No. 1563.

**12015. *Pesterboden.*** Grown from S. P. I. No. 5500. C. I. No. 1563.

**12016 to 12018. PANICUM MILLACEUM.****Broom-corn millet.**

**12016. *Red Voronezh.*** Grown from S. P. I. No. 9424. Original seed from Russia.

**12017. *Black Voronezh.*** Grown from S. P. I. No. 9425. Original seed from Russia.

**12018. *Red Orenburg.*** Grown from S. P. I. No. 9423. Original seed from Russia.

**12019. GARCINIA XANTHOCHYMUS.**

From Honolulu, Hawaii. Presented by Mr. G. P. Wilder. Received October 31, 1904.

"Fruits from a tree growing in the Government nursery of Honolulu. Sent for identification. This species is promising as a stock upon which to graft the mangosteen. Its fruits have an agreeable acid flavor." (*Fairchild.*)

**12020. PORTULACARIA AFRA.****Spek-boom.**

From Durban, Natal. Received thru Messrs. Lathrop and Fairchild (No. 1097, February 8, 1903), November 9, 1904.

"A native South African shrub or small tree with succulent shoots which, according to von Müller, has been tested for many years in Australia, and which Mr. John M. Wood, of the Durban Botanic Garden, says has been sent to Algeria for experimental purposes. The shoots are said to be keenly relished by live stock, and the plant is reported to grow on dry, waste places without requiring attention. The cuttings take root easily, and von Müller says that the plant may even be propagated from the leaves. The range of this species is not known by the writer, but it will probably thrive only in a frostless region. The plant grows on hot, rocky slopes, preferably of doleritic nature. Plant on stony ridges or in sandy, desert soil. This species deserves to be given a wide distribution in regions where it will grow wild, and should be called to the attention of those interested in the cattle-range question of Arizona and Hawaii. These cuttings were donated by Mr. Wood." (*Fairchild.*)

**12021. GARCINIA COCHINCHINENSIS.**

From Durban, Natal. Received thru Messrs. Lathrop and Fairchild (No. 1102, February 8, 1903), November 9, 1904.

"This tree is a more vigorous one and easier to adapt to cultivation than *G. mangostana*, the true mangosteen. It is also a heavier bearer, and it is valuable in connection with experiments on the cultivation of the mangosteen in Porto Rico and Hawaii. The fruit is a golden-yellow color, one-seeded, with characteristic acid-flavored pulp. Most people do not care for the taste of this fruit, but the writer found the fruits most refreshing, and Mr. Wood, of the Botanic Gardens in Durban, who kindly donated the seeds, says that a former governor of Natal was very fond of them. Trees of this species should be raised in gardens in Florida, Porto Rico, and Hawaii accessible for breeding and grafting experiments. It may prove a good stock for the mangosteen." (*Fairchild.*)



**12022. GARCINIA MANGOSTANA.****Mangosteen.**

From Singapore, Straits Settlements. Presented by Mr. R. Derry, assistant superintendent of the Botanic Gardens. Received November 9, 1904.

**12023. HORDEUM DISTICHUM.****Two-row barley.**

From Fresno, Cal. Received thru Mr. George C. Roeding, December 22, 1904.  
*White Saigra*. Grown from S. P. I. No. 7969.

**12024 and 12025. SECHUM EDULE.****Chayote.**

From Saltillo, Mexico. Presented by Mr. J. R. Silliman at the request of Dr. Edward Palmer. Received November 7, 1904.

"An unusually large and fine variety of the chayote, representing two doubtful subvarieties, the one a darker green in color than the other and considered a sweeter sort. This is considered one of the best, and is indeed one of the most commonly grown vegetables in Mexico and Central America. The particularly large size of these varieties makes them promising for introduction into the warmer regions of this country. Bulletin No. 28 of the Bureau of Plant Industry gives a full description of the methods of planting, etc." (*Fairchild*.)

**12026 and 12027. ZEA MAYS.****Corn.**

From Saltillo, Mexico. Presented by Mr. J. R. Silliman. Received November 7, 1904.

**12026.** Genuine white *Mexican June*.

**12027.** Genuine red *Mexican June*.

"I am sending you four ears of genuine *Mexican June* corn grown by myself. This corn was planted in June and harvested about the 15th of October. The natives mix their seed very much and are not at all careful with it, so a great deal of the so-called *Mexican June* corn is not strictly such. Of the white variety there are two classes—one with white cob, the other with red cob. The grains are long and thin, the cob very small. It is a great drought resister and very sweet, the Mexican children chewing the stalks as they do sugar cane. Cattle are very fond of the green stalk and it produces a fine flow of rich milk in cows. The stalk reaches a height of 8 to 12 feet and is very slender; therefore we plant it quite thick. The dark variety, or *Maíz pinto*, is considered more hardy and better for resisting dry weather. It is shorter and more stocky in its growth. It is not so sweet. It will give a crop when all else fails. While not considered so fine for general use, it is equal to any for all stock." (*Silliman*.)

**12028 to 12103. PAEONIA spp.****Peony.**

From Langport, Somerset, England. Received thru Messrs. Kelway & Son, November 12, 1904.

Peonies imported for testing on the grounds of the Department of Agriculture at Arlington, Va., 76 varieties, as follows:

**12028.** *Maria Kelway.*

**12039.** *Paderewski.*

**12029.** *Agnes Mary Kelway.*

**12040.** *Mad Calot.*

**12030.** *Lady Curzon.*

**12041.** *Torquemada.*

**12031.** *Princess Beatrice.*

**12042.** *Glory of Somerset.*

**12032.** *Mrs. Chamberlain.*

**12043.** *Prince of Wales.*

**12033.** *Mountbank.*

**12044.** *Leonard Kelway.*

**12034.** *Festiva Maxima.*

**12045.** *Dorothy Welsh.*

**12035.** *Princess Irene.*

**12046.** *Alonzo.*

**12036.** *Duke of Clarence.*

**12047.** *Grizzel Muir.*

**12037.** *Lady Beresford.*

**12048.** *Solfutierre.*

**12038.** *Limosel.*

**12049.** *Lottie Collins.*

**12028 to 12103—Continued.**

12050. <i>Kelway's Queen.</i>	12077. <i>Nominata.</i>
12051. <i>Helena.</i>	12078. <i>Calliphon.</i>
12052. <i>Joan Seaton.</i>	12079. <i>Duke of Devonshire.</i>
12053. <i>Princess Christian.</i>	12080. <i>Baroness Schroeder.</i>
12054. <i>Princess of Wales.</i>	12081. <i>The Bride.</i>
12055. <i>Lady Gwendolen Cecil.</i>	12082. <i>Ella Christine Kelway.</i>
12056. <i>Mrs. Asquith.</i>	12083. <i>Cyclops.</i>
12057. <i>Stanley.</i>	12084. <i>Sainfoin.</i>
12058. <i>Prince George.</i>	12085. <i>Venus.</i>
12059. <i>Cognita.</i>	12086. <i>Duchess of Sutherland.</i>
12060. <i>Duchess of Teck.</i>	12087. <i>Mr. Manning.</i>
12061. <i>Autumnus.</i>	12088. <i>Queen of the May.</i>
12062. <i>Humei White.</i>	12089. <i>Lady Cecilia Rose.</i>
12063. <i>Summer Day.</i>	12090. <i>Viscount Cross.</i>
12064. <i>Moonbeam.</i>	12091. <i>Lyde.</i>
12065. <i>Reine des Français.</i>	12092. <i>Water Lily.</i>
12066. <i>Whitley Plena.</i>	12093. <i>Princess Dhuleep Singh.</i>
12067. <i>Prince Prosper.</i>	12094. <i>Cendrillon.</i>
12068. <i>Lady Currington.</i>	12095. <i>Alton Locke.</i>
12069. <i>Sir T. J. Lipton.</i>	12096. <i>Argus.</i>
12070. <i>Princess May.</i>	12097. <i>Hesperus.</i>
12071. <i>Queen Victoria.</i>	12098. <i>Amiable.</i>
12072. <i>Miss Salway.</i>	12099. <i>Lady Bramwell.</i>
12073. <i>Bunch of Perfume.</i>	12100. <i>Caralleria Rusticana.</i>
12074. <i>Millaïs.</i>	12101. <i>Emily.</i>
12075. <i>Tinted Venus.</i>	12102. <i>Clothos.</i>
12076. <i>Miss Brice.</i>	12103. <i>Opider.</i>

**12104. FREYCINETIA ARBOREA.**

From Honolulu, Hawaii. Received thru Mr. J. E. Higgins, horticulturist, Agricultural Experiment Station, November 14, 1904.

**12105 to 12107. NICOTIANA TABACUM.****Tobacco.**

From Brazil. Presented by Mr. M. Caluron, secretary of Agriculture, Railways, Industry, and Public Works of the State of Bahia. Received October 31, 1904.

12105. From Santa Anna.

12107. From S. Gonçalo dos Campos.

12106. From Maragogipe.

**12108. CUCUMIS MELO.****Muskmelon.**

From Bairam Ali, Old Merv, Turkestan. Presented by Prof. R. W. Pumpelly. Received November 12, 1904.

**12109. CUCUMIS MELO.****Muskmelon.**

From Samarkand, Turkestan. Presented by Prof. R. W. Pumpelly. Received November 12, 1904.

**12110. CALOPHYLLUM INOPHYLLUM.**

From Honolulu, Hawaii. Received thru Mr. Gerrit P. Wilder, November 15, 1904.

"Imported for use as a possible stock on which to graft the mangosteen, *Garcinia mangostana*." (*Fairchild*.)

**12111 and 12112.**

From Nice, Alpes-Maritimes, France. Presented by Dr. A. Robertson-Proschowsky. Received November 14, 1904.

**12111. FICUS GLOMERATA.**

**Cluster fig.**

**12112. OPUNTIA FICUS INDICA.**

**Prickly pear.**

**12113. SOLANUM COMMERSONI.**

**Aquatic potato.**

From Santa Rosa, Cal. Presented by Mr. Luther Burbank. Received November 18, 1904.

"Tubers produced from plants grown in Mr. Burbank's experimental grounds from imported tubers, S. P. I. No. 10324. First generation removed from importation." (*Fairchild*.)

**12114. JUGLANS REGIA.**

**Persian walnut.**

From Khojend, Russian Central Asia. Received thru Mr. E. Valneff, November 15, 1904.

**12115. SECHIU M EDULE.**

**Chayote.**

From Mexico. Received thru Dr. Edward Palmer, November 21, 1904.

**12116 to 12119. HORDEUM spp.**

**Barley.**

From Milwaukee, Wis. Presented by Mr. G. G. Pabst, president of the Pabst Brewing Company. Received November 9, 1904.

Four samples of barley grown from seed furnished by this Department, originally purchased in Svalöf, Sweden, from the General Swedish Seed-Breeding Institute, as follows:

**12116. HORDEUM DISTICHUM NUTANS.**

*Prinsess*. Grown from S. P. I. No. 10583 on the Summer farm, Wauwatosa, Wis. Yielded 13 bushels from 1 peck of seed.

**12117. HORDEUM DISTICHUM NUTANS.**

*Chevalier II*. Grown from S. P. I. No. 10584 on the Wasson farm, Granville, Wis. Yielded 5½ bushels from 1 peck, approximately.

**12118. HORDEUM DISTICHUM NUTANS.**

*Hannchen*. Grown from S. P. I. No. 10585 on the Wasson farm, Granville, Wis. Yielded 7 bushels from 1 peck of seed.

**12119. HORDEUM DISTICHUM ERECTUM.**

*Primus*. Grown from S. P. I. No. 10586 on the farm of Mr. John Schubert, Granville, Wis. Yielded 4 bushels from 1 peck of seed.

**12120 to 12129. HORDEUM spp.**

**Barley.**

From Milwaukee, Wis. Presented by Mr. August Uihlein, secretary of the Schlitz Brewing Company. Received November 21, 1904.

Barley samples, as follows:

**12120. HORDEUM TETRASTICHUM.**

*Albacete*. Grown from S. P. I. No. 7427, originally from Spain.

**12120 to 12129—Continued.****12121. HORDEUM DISTICHUM.**

Grown from S. P. I. No. 7992, originally from Munich, Bavaria.

**12122. HORDEUM HEXASTICHUM.**

Grown from S. P. I. No. 8559, originally from Christiania, Norway.

**12123. HORDEUM VULGARE.**

*Maraout.* Grown from S. P. I. No. 9877, originally from Cairo, Egypt.

**12124. HORDEUM sp.**

Grown from California seed that was originally imported from Moravia.

**12125. HORDEUM DISTICHUM NUTANS.**

*Hanna.* Grown from S. P. I. No. 10402, originally from Austria.

**12126. HORDEUM DISTICHUM NUTANS.**

*Prinsess.* Grown from S. P. I. No. 10583, originally from Sweden.

**12127. HORDEUM DISTICHUM NUTANS.**

*Chevalier II.* Grown from S. P. I. No. 10584, originally from Sweden.

**12128. HORDEUM DISTICHUM NUTANS.**

*Hannchen.* Grown from S. P. I. No. 10585, originally from Sweden.

**12129. HORDEUM DISTICHUM ERECTUM.**

*Primus.* Grown from S. P. I. No. 10586, originally from Sweden.

**12130. ORYZA SATIVA.****Rice.**

From Calcutta, India. Received thru I. Henry Burkill, esq., M. C., officiating reporter on economic products to the government of India, Indian Museum, October 21, 1904.

*Rekikesh* paddy seed, said to be the most valuable rice in India; grown on the Ganges where it emerges from the hills. A lowland variety of rice, said to be worth twenty times the price of ordinary rice.

**12131. XANTHOXYLUM PIPERITUM.****Japanese pepper.**

From Yokohama, Japan. Received thru the Yokohama Nursery Company, November 14, 1904.

**12132 to 12134.**

From Brighton, Utah. Received thru Mr. Ephraim Clawson, November 10, 1904.

**12132. TRIFOLIUM ALEXANDRINUM.****Berseem.****12133. AVENA SATIVA.****Oat.**

Grown from S. P. I. No. 10269, originally from Algeria.

**12134. TRITICUM VULGARE.****Wheat.**

*Chul-bidai.* Grown from S. P. I. No. 9131, originally from Russia.

**12135. VICIA ATROPURPUREA.**

From Santa Clara, Cal. Received thru Mr. C. C. Morse in 1904.

**12136 and 12137.**

From London, England. Received thru Messrs. James Veitch & Sons (Limited), Chelsea, S. W., November 25, 1904.

**12136. EUCOMMIA ULMOIDES.****Tu-chung.**

"*Tu-chung* is the name given by the Chinese to the tree which has been described by Professor Oliver in Hooker's *Icones Plantarum* as *Eucommia*

**12136 and 12137—Continued.**

*ulmoides*. The bark is the only part used, and is much esteemed by the Chinese as a drug, tonic and various other properties being assigned to it. It is described in nearly all Chinese works on materia medica and botany, the earliest mention of it being given in the Herbal of which the Emperor Shên-Nung is the reputed author, and which was committed to writing probably as early as the first century of our era.

"The tree is cultivated in small plantations in the mountainous regions of Szechwan, Hupeh, and Shensi; and from these districts it is brought to Hankow, the great mart for drugs that are produced in the western provinces. From this port about 100 tons are annually exported by steamer to the other treaty ports.

"*Eucommia ulmoides* has been grown out of doors at Kew without any protection for the last six years. It is a vigorous, free-rooting plant, and bears transplanting well. It will, I believe, thrive in any soil of average quality, but seems to prefer a rich, light loam. In such a soil, at Kew, young trees struck from cuttings five years ago are now 6 feet high and make shoots 2 feet to 2½ feet long in one season.

"It can be propagated easily by means of cuttings, and with these two methods may be adopted. The quickest method is to take pieces of the current season's growth, about 6 inches long, in late July or early August, insert them in pots of very sandy soil (the usual mixture for cuttings), and then place the pots in a house or frame where slight bottom heat can be afforded. The cuttings should be made of shoots in what gardeners term a "half-woody" condition. They will take root in a few weeks and can then, after a "hardening-off" period, be planted in nursery beds. The second method is to make the cuttings of the leafless wood in November and dibble them in sandy soil in a cool frame or out of doors under a *cloche*, or hand light. They will take root the following spring. This method is not so quick as the other, nor have we found it so sure." (*Kew Bulletin* No. 1, 1904.)

**12137. DAVIDIA INVOLUCRATA.**

**Davidia.**

(See description of this beautiful tree under S. P. I. No. 16208.)

**12138. MANGIFERA INDICA.**

**Mango.**

From Miami, Fla. Received thru P. H. Rolfs, November 23, 1904.  
Gordon. Grown from S. P. I. No. 3705.

**12139. NICOTIANA SANDERAE.**

**Flowering tobacco.**

From Philadelphia, Pa. Received thru Henry A. Dreer, Incorporated, November 25, 1904.

*Carmine tuberosely-flowered*. Seed of a new hybrid *Nicotiana* raised in England. Described as forming bushy, much-branched plants 2 feet high, laden with flowers from base to summit. Flowers are a carmine red and fragrant, a single plant producing thousands. Resembles *N. affinis* in form, but has a short, stout tube and does not close up in daytime. (See No. 12358 for history.)

**12140 to 12230.**

From Yokohama, Japan. Received thru the Yokohama Nursery Company at the Plant Introduction Garden, Chico, Cal., October 31, 1904.

**12140. ARLIA CORDATA.**

**Moyashi udo.**

Two-year-old roots.

**12141. CITRUS sp.**

**Orange.**

*Natsudaidai*.

**12142. EDGEWORTHIA GARDNERI.**

**Mitsumata paper plant.**

**12143 to 12155. LILIUM-spp.**

**Lily.**

**12143. LILIUM ALEXANDRAE.**

**12145. LILIUM BATMANIAE.**

**12144. LILIUM AURATUM.**

**12146. LILIUM BROWNII.**



## 12140 to 12230—Continued.

## 12143 to 12155—Continued.

12147.	LILIUM CORDIFOLIUM.
12148.	LILIUM CONCOLOR.
12149.	LILIUM HANSONI.
12150.	LILIUM KRAMERI.
12151.	LILIUM LEICHTLINI.

12152.	LILIUM LONGIFOLIUM.
12153.	LILIUM MEDEOLLOIDES.
12154.	LILIUM SPECIOSUM ALBUM.
12155.	LILIUM TIGRINUM.

## 12156. MISCANTHUS CONDENSATUS.

## 12157 to 12176. NELUMBIUM SPECIOSUM.

Lotus.

12157.	<i>Tenjiku ren.</i>
12158.	<i>Tenjiku madara.</i>
12159.	<i>Hichijo ren.</i>
12160.	<i>Taihaku ren.</i>
12161.	<i>Toka ren.</i>
12162.	<i>Higo shibori.</i>
12163.	<i>Shokko ren.</i>
12164.	<i>Tama usagi.</i>
12165.	<i>Shiro manman.</i>
12166.	<i>Nikko ren.</i>

12167.	<i>Giozan ren.</i>
12168.	<i>Kayo ren.</i>
12169.	<i>Haku botan.</i>
12170.	<i>Sakura ren.</i>
12171.	<i>Usuyo ren.</i>
12172.	<i>Seihaku ren.</i>
12173.	<i>Shosho ren.</i>
12174.	<i>Beni botan.</i>
12175.	<i>Kinshi ren.</i>
12176.	<i>Asahi ren.</i>

## 12177. PHYLLOSTACHYS HENONIS.

Bamboo.

## 12178. PHYLLOSTACHYS MITIS.

Bamboo.

## 12179. PHYLLOSTACHYS NIGRA.

Bamboo.

## 12180. PHYLLOSTACHYS QUILIOI.

Bamboo.

## 12181 to 12230. PRUNUS PSEUDO-CERASUS.

Flowering cherry.

12181.	<i>Koshioyama.</i>
12182.	<i>Yaye hizakura.</i>
12183.	<i>Oshokun.</i>
12184.	<i>Huru arashi.</i>
12185.	<i>Haria sau.</i>
12186.	<i>Kurama yama.</i>
12187.	<i>Higai shidare.</i>
12188.	<i>Oshibayama.</i>
12189.	<i>Beni gamo.</i>
12190.	<i>Kongasaw.</i>
12191.	<i>Shira taye.</i>
12192.	<i>Batan zakura.</i>
12193.	<i>Strogetsu.</i>
12194.	<i>Aki irosakura.</i>
12195.	<i>Ben den.</i>
12196.	<i>Asagi sakura.</i>
12197.	<i>Kumagai sakura.</i>
12198.	<i>Nara (?) sakura.</i>
12199.	<i>Kirigaya.</i>

12200.	<i>Kafugen.</i>
12201.	<i>Benihigan.</i>
12202.	<i>Washi-no-O.</i>
12203.	<i>Kiuruiji.</i>
12204.	<i>Onaden.</i>
12205.	<i>Ichijo.</i>
12206.	<i>Gigo.</i>
12207.	<i>Meigetsu.</i>
12208.	<i>Jouioi.</i>
12209.	<i>Hizakura (single).</i>
12210.	<i>Mikuruna gaishi.</i>
12211.	<i>Hosokawa nioi.</i>
12212.	<i>Horinji.</i>
12213.	<i>Hata sakura.</i>
12214.	<i>Ochochin.</i>
12215.	<i>Yokichi.</i>
12216.	<i>Shiogama sakura.</i>
12217.	<i>Toyama sakura.</i>
12218.	<i>Kokishinuden.</i>

**12140 to 12230—Continued.****12181 to 12230—Continued.**

<b>12219.</b> <i>Nikoromoki.</i>	<b>12225.</b> <i>Senreko.</i>
<b>12220.</b> <i>Hakukezan.</i>	<b>12226.</b> <i>Totankisahura.</i>
<b>12221.</b> <i>Gozanoma nioi.</i>	<b>12227.</b> <i>Amamo gawa.</i>
<b>12222.</b> <i>Kikushidase.</i>	<b>12228.</b> <i>Fugenzo.</i>
<b>12223.</b> <i>Taki nioi.</i>	<b>12229.</b> <i>Ouchizakma.</i>
<b>12224.</b> <i>Heto maru.</i>	<b>12230.</b> <i>Kiri.</i>

**12231. MEDICAGO SATIVA.****Alfalfa.**

From Vernon, Tex. Received thru Mr. J. A. White, November 28, 1904.

*Turkestan.* Grown from S. P. I. No. 9450.**12232. PISTACIA TEREBINTHUS.****Terebinth.**

From Paris, France. Received thru Vilmorin-Andrieux &amp; Co., November 23, 1904.

**12233. HYACINTHUS ORIENTALIS ALBULUS.****Hyacinth.**

From New York, N. Y. Received thru J. M. Thorburn &amp; Co., November 26, 1904.

**12234. PHLEUM PRATENSE.****Timothy.**

From Tunis, Tunis. Presented by Prof. R. Gagey, of the Agricultural College. Received November 30, 1904.

**12235. LILIUM PHILIPPINENSE.****Benguet lily.**

From Manila, P. I. Presented by Mr. Elmer D. Merrill. Received November 15, 1904. Collected by Mr. R. S. Williams, collector for the New York Botanical Gardens in the province of Benguet, P. I.

**12236 and 12237.**

From Clearbrook, Whatcom County, Wash. Presented by Mr. George Gibbs. Received December 2, 1904.

**12236. ACER MACROPHYLLUM.****Oregon maple.**

"Handsome, roundheaded tree, remarkable for its large foliage. Not hardy in the North. In western Washington these maples grow from 2 to 5 feet the first year from seed. They are the finest of street shade trees, and stand any amount of wind. They grow 60 feet high at Clearbrook and reach 3 to 6 feet in diameter." (*Gibbs.*)

**12237. THUJA GIGANTEA.****Giant arbor vitae.****12238. LANSIUM DOMESTICUM.****Doekoe.**

From Buitenzorg, Java. Presented by Doctor Treub. Received December 5, 1904.

"One of the most refreshing fruits of the Dutch East Indies, which deserves to be well known in the Western Tropics, but which hitherto seems to have been quite overlooked." (*Fairchild.*)

"A low-growing tree of the East Indies which is cultivated to some extent for its fruit, which is known in Java and Malakka as 'Lanseh' fruit and is much esteemed for its delicate aroma. The pulp is of somewhat firm consistence and contains a cooling, refreshing juice." (*Jackson in Trans. Linn. Soc., XIV, 1 (1823), 115.*)

**12239. AGAPANTHUS UMBELLATUS.**

From Washington, D. C. Received thru the National Botanic Garden in 1902.

**12240. MANGIFERA INDICA.****Mango.**

From Manatee, Fla. Received thru Mr. A. J. Pettigrew, December 7, 1904.

*Peters No. 1.* Grown from S. P. I. No. 3706.**12241. MANGIFERA INDICA.****Mango.**

From Mangonia, Fla. Presented by Rev. E. E. Gale. Received December 7, 1904.

*Père Louis.* Grown from S. P. I. No. 3707.**12242. BERBERIS FREMONTII.**

From Tucson, Ariz. Received thru Mr. D. G. Fairchild at the Plant Introduction Garden, Chico, Cal., September 10, 1904.

"Seeds from plants growing on the experiment station grounds. A beautiful desert form for breeding with *B. thunbergii*." (*Fairchild.*)**12243. PISTACIA VERA.****Pistache.**

From northern Syria. Received thru Mr. W. T. Swingle at the Plant Introduction Garden, Chico, Cal., October 6, 1904.

"These seeds were grown from trees grafted on *P. mutica* and were obtained from a Mr. Nazar, whose people graft the pistache on this species in the dry country near the Euphrates River." (*Swingle.*)**12244 to 12302.**

A collection of bulbs secured for experimental work in the Department bulb garden.

**12244 to 12265.**

From Hillegom, Haarlem, Holland. Received thru Vander Schoot &amp; Son, October, 1903.

**12266 to 12276.**

From London, England. Received thru William Bull &amp; Sons, November, 1903.

**12277 to 12279.**

From Clearbrook, Wash. Received thru Mr. George Gibbs, November, 1904.

**12280 to 12298.**

From Guernsey, England. Received from Hubert &amp; Co., September, 1904. Purchased thru Mr. Nicholas Le Page, Mount Vernon, N. Y.

**12299 to 12302.**

From Ettrick, Va. Received thru Poat Brothers, October, 1904.

**12303. AVENA SATIVA.****Oat.**

From Brookings, S. Dak. Received thru Mr. H. I. Stearns, December 8, 1904.

*Sixty-Day.* Grown from S. P. I. No. 5938.**12304. SECHIU EDULE.****Chayote.**

From New Orleans, La. Presented by the J. Steckler Seed Company. Received November 23, 1904.

**12305. MANGIFERA INDICA.****Mango.**

From West Palm Beach, Fla. Received thru Mr. John B. Beach, December 9, 1904.

*Mulgoba.*

**12306. Gossypium sp.****Cotton.**

From the Philippine Islands. Presented by Dr. B. D. Halsted, Agricultural Experiment Station, New Brunswick, N. J. Received December 6, 1904.

*Kaki.* These seeds were collected by Mr. A. Ellicott Brown, of the Marine Corps, and sent to Doctor Halsted.

**12307 to 12357. Salix spp.****Willow.**

From Ottawa, Canada. Presented by Dr. William Saunders, director of the Central Experimental Farm. Received December 14, 1902.

A collection of species and varieties of willow growing in the arboretum of the Central Experimental Farm at Ottawa. The nomenclature given is that recognized by the Experimental Farm.

**12307.** *SALIX CAESIA PENDULA*  
ZABELI.

**12308.** *SALIX NIGRICANS PRUNIFOLIA.*

**12309.** *SALIX DAPHNOIDES POMERANIA FEMINA.*

**12310.** *SALIX TRIANDRA (S. LAPPEANA).*

**12311.** *SALIX PURPUREA SCHARFENBERGENSIS.*

**12312.** *SALIX CASIANDRA LANCI-FOLIA.*

**12313.** *SALIX FRAGILIS BASFORDIANA.*

**12314.** *SALIX RUBRA FORBYANA.*

**12315.** *SALIX ARGENTEA AURITA.*

**12316.** *SALIX NIGRICANS MOABITICA.*

**12317.** *SALIX BATAVIAE.*

**12318.** *SALIX ALBA BRITZENSIS.*

**12319.** *SALIX NIGRICANS COTINFOLIA.*

**12320.** *SALIX ALBA VITELLINA.*

**12321.** *SALIX DAPHNOIDES FEMINA.*

**12322.** *SALIX PETIOLARIS.*

**12323.** *SALIX SERINGEANA.*

**12324.** *SALIX ALBA VITELLINA.*

**12325.** *SALIX ERDINGERI.*

**12326.** *SALIX NIGRICANS ANSONIANA.*

**12327.** *SALIX PURPUREA URABENSIS.*

**12328.** *SALIX UNDULATA.*

**12329.** *SALIX VIMINALIS.*

**12330.** *SALIX DAPHNOIDES MAS-CULA.*

**12331.** *SALIX BLANDA (S. BABY-LONICA × FRAGILIS).*

**12332.** *SALIX BICOLOR LAUREANA.*

**12333.** *SALIX DECIPIENS.*

**12334.** *SALIX ALBA VITELLINA AURANTIACA.*

**12335.** *SALIX PURPUREA LAMBERTIANA.*

**12336.** *SALIX CINEREA TRICOLOR.*

**12337.** *SALIX AMBIGUA.*

**12338.** *SALIX VORONESH.*

**12339.** *SALIX SMITHIANA ACUMINATA (S. DASYCLADOS).*

**12340.** *SALIX PELLITA.*

**12341.** *SALIX REPENS ARGENTEA.*

**12342.** *SALIX LONGIFOLIA.*

**12343.** *SALIX LAURINA.*

**12344.** *SALIX BABYLONICA.*

**12345.** *SALIX CINEREA REPENS.*

**12346.** *SALIX FRAGILIS AMMANIANA.*

**12347.** *SALIX ALBA ARGENTEA.*

**12348.** *SALIX NIGRICANS MENTHAEFOLIA.*

**12349.** *SALIX ROSMARINIFOLIA.*

**12350.** *SALIX NIGRICANS.*

**12351.** *SALIX MOLLISSIMA.*

**12352.** *SALIX VIMINALIS SUPERBA.*

**12353.** *SALIX HIPPOPHAEFOLIA UNDULATA.*

**12354.** *SALIX SPAETHI.*

**12355.** *SALIX CORDATA VESTITA.*

**12356.** *SALIX ALBA VITELLINA NOVA.*

**12357.** *SALIX NIGRICANS VIBURNOIDES.*

**12358. NICOTIANA SANDERAE. Flowering tobacco.**

From New York, N. Y. Received thru J. M. Thorburn & Co., December 14, 1904.

*Carmine-flowered.* "This variety is the result of crossing the dwarf purple-flowered *N. forgetiana*, from Brazil, with *N. affinis*, the well-known, fragrant white-flowered garden annual." (*Sander & Sons.*)

**12359. LATHYRUS ODORATUS. Sweet pea.**

From Covent Garden, W. C., London, England. Received thru Watkins & Simpson, 12 Tavistock street, December 9, 1904.

*Gladys Unwin.*

**12360. AFZELIA QUANZENSIS.**

From Cape Town, Cape Colony, Africa. Received thru Dr. Peter MacOwan, government botanist, November 28, 1904.

**12361. LATHYRUS SYLVESTRIS. Flat pea.**

From New York, N. Y. Received thru J. M. Thorburn & Co., November 21, 1904.

**12362 and 12363.**

From Bangkok, Siam. Presented by His Excellency Phya Akharaj Varadhara, the Siamese minister, to Dr. B. T. Galloway. Received December 2, 1904.

Plants used extensively in Bangkok as a condiment.

**12362.**

*Krawan.*

**12363.**

(No name given.)

**12364. LILIUM GIGANTEUM. Lily.**

From New York, N. Y. Received thru Henry & Lee, December 13, 1904.

**12365. PANICUM MAXIMUM. Guinea grass.**

From Mayaguez, P. R. Received thru the Agricultural Experiment Station, December 21, 1904.

**12366. SECHUM EDULE. Chayote.**

From New Orleans, La. Received thru the J. Steckler Seed Company, December 16, 1904.

**12367. DAHLIA sp. Dahlia.**

From "La Trinidad," Guerrero, Mexico. Received thru Mr. Federico Chisolm, December 13, 1904.

**12368. GLADIOLUS GANDAVENSIS. Gladiolus.**

From Philadelphia, Pa. Received thru Henry A. Dreer, Incorporated, December 16, 1904.

*White Lady.*

**12369. PACHYRHIZUS sp.**

From Santa Maria del Rio, Mexico. Received thru Dr. Edward Palmer, December 21, 1904.

"There are two forms of this *Pachyrhizus*, one called *Agua* (water) and the other *Leche* (milk). These two forms have been long recognized, but not as separate species. At Santa Maria del Rio I saw several fields of this plant cultivated on ridges so that the plants might be irrigated. I was informed that both forms were grown in the same patch and could not be distinguished either by their foliage or flowers, and that



it was only by tasting the roots themselves that the difference could be detected. Both varieties are considered equally valuable. They are eaten raw, especially by travelers on long tours thru the drier portions of the country, as their watery character makes them valuable for quenching one's thirst. They are also considered nutritious and are said to make good pickles. It is possible that they may also be cooked as turnips are and could be cultivated in regions where the turnip will not thrive." (*Palmer.*)

**12370. IRIS sp.****Iris.**

From Fairfield; Wash. Collected by Mr. A. J. Pieters, August 21, 1904.

**12371 to 12393.****Abyssinian seeds.**

From Abyssinia, Africa. Received thru Hon. Robert P. Skinner, commissioner of the United States to Abyssinia, December 15, 1904.

A collection of seeds made for Mr. Skinner under his direction by Mr. Eugène Carrette Bouvet. This collection is supplementary to the collection received June 3, 1904, Nos. 11039 to 11119, from the same source. The names given are transcribed from those written upon the original packages.

12371.	ANDROPOGON SORGHUM.	Sorghum.
12372.	ANDROPOGON SORGHUM.	Sorghum.
12373.	ANDROPOGON SORGHUM.	Sorghum.
12374.	ANDROPOGON SORGHUM.	Sorghum.
12375.	HORDEUM sp.	Barley.
12376.	HORDEUM sp.	Barley.
12377.	TRITICUM sp.	Wheat.
12378.	ERAGROSTIS ABYSSINICA.	Teff.
12379.	TRITICUM DIOCOCCUM.	Emmer.
12380.	COFFEA sp.	Wild coffee.
12381.	COFFEA sp.	Harrar coffee.
12382.	COFFEA sp.	Cultivated coffee.
12383.	ZEA MAYS.	Corn.
12384.	ZEA MAYS.	Corn.
12385.	ERAGROSTIS ABYSSINICA.	Teff.
12386.	ERAGROSTIS ABYSSINICA.	Teff.
12387.	SESAMUM INDICUM.	Sesame.
12388.	PIMPINELLA ANISUM.	Anise.
12389.	GUIZOTIA OLEIFERA.	
12390.	ELEUSINE CORACANA.	
12391.	LINUM sp.	Flax.
12392.	PISUM SATIVUM.	Pea.
12393.	CICER ARIETINUM.	Chick-pea.

**12394. BETA VULGARIS.****Sugar beet.**

From New York, N. Y. Received thru Mr. Albert Bohm, Wool Exchange Building, West Broadway and Beach streets, December 21, 1904.

Said by Mr. Bohm to be more subject to outside influences than ordinary seed.

**12395. PHYSALIS sp.****Ground cherry.**

From Columbus, Ohio. Received thru the Livingston Seed Company, December 23, 1904.

Ordered for Mr. Burbank's experiments.

**12396. *Physalis* sp.****Purple ground cherry.**

From Columbus, Ohio. Received thru the Livingston Seed Company, December 24, 1904.

**12397. *Zinnia elegans*.****Zinnia.**

From Naples, Italy. Received thru Mr. Max Herb, successor to Herb & Wulle, 24-36 via Trivio, December 24, 1904.

*Zinnia elegans*, fl. pl. *crispa*, extra; described in volume 19 of Möller's Deutsche Gärtner-Zeitung, p. 475.

**12398. *Medicago sativa*.****Alfalfa.**

From Fort Collins, Colo. Received thru Mr. Peter Anderson, December 28, 1904.

**12399 and 12400. *Glycine hispida*.****Soy bean.**

From Amherst, Mass. Received thru the Hatch Experiment Station, December 28, 1904.

**12399.** Grown from S. P. I.  
No. 9407.

**12400.** Grown from S. P. I.  
No. 9408.

**12401. *Ipomoea* sp.**

From Miami, Fla. Received thru Prof. P. H. Rolfs, Subtropical Laboratory, December 23, 1904.

A pink-flowered *Ipomoea* grown from seed secured by Professor Rolfs in Cuba or Jamaica.

**12402 and 12403. *Opuntia ficus-indica* *gymnocarpa*.****Tuna.**

From Nice, France. Received thru Dr. A. Robertson-Proschowsky, December 27, 1904.

"In a letter of December 12, Doctor Proschowsky remarks: 'The young joints of this species have small spines, but these fall off in the second year. As regards the fruits, it is three years that they have been produced in my garden, and they have always been absolutely spineless without any of those almost microscopic spicules which are the great objection to the fruits of *Opuntia* in general.' The present year only three fruits were developed, and the seeds sent, No. 12403, are from one of those fruits. As this small number of seeds represents the total number contained in the fruit it is evident that the variety, in addition to bearing spineless fruits, bears fruits with comparatively few seeds in them. Doctor Proschowsky further remarks that this *Opuntia* is the largest, quickest growing, and most picturesque of all of the *Opuntias* which he has ever seen.' (Fairchild.)

**12404. *Cereus validus*.**

From Nice, France. Received thru Dr. A. Robertson-Proschowsky, December 27, 1904.

"A tall, picturesque plant, which produces fruit the size of a goose egg and of a beautiful magenta color. These fruits are absolutely without spicules and of very good taste. Doctor Proschowsky remarks that he knows of no other fruit which is so 'melting,' and it resembles much the 'snows' sold in Latin-American countries, consisting of real snow mixed with some fruit juice or sugar." (Fairchild.)

**12405 to 12407.**

From New York, N. Y. Received thru J. M. Thorburn & Co., December 28, 1904.

**12405. *Holcus lanatus*.****Velvet grass.**

A forage grass of poor quality, but capable of growing well on dry soil.

**12405 to 12407—Continued.****12406.** SPERGULA ARVENSIS.**Spurry.**

An annual plant of especial value on dry, sandy land.

**12407.** ORNITHOPUS SATIVUS.**Serradella.**

An annual legume for growing on dry, sandy land.

**12408. ULEX EUROPAEUS.****Gorse, whin, or furze.**

From Dublin, Ireland. Received thru Hogg &amp; Robertson, December 29, 1904.

"The cultivation of this plant is suited only to waste lands which are unfit for more profitable cultures. In portions of northern France, the Netherlands, England, and Ireland the plant is utilized successfully as fodder, being cut and passed thru a special shredding machine, which reduces the spines to a harmless pulp. In the Madeira Islands, J. B. Blandy informed me that it was very keenly relished by cattle and furnished an excellent fodder for milk-producing purposes. The plant, altho not a tender species, will probably not be hardy in the Northwest, but should be tried in regions with a climate similar to that of England and Ireland, on rocky, barren hillsides where other plants will not thrive." (*Fairchild.*)

**12409. MEDICAGO SATIVA.****Alfalfa.**

From Ogden, Utah. Received thru the C. A. Smurthwaite Produce Company, December 30, 1904.

This seed was grown on the ranch of Mr. E. M. Brimall, Diamond Fork, Spanish Fork Canyon, Utah County, Utah, on land without irrigation, above water line in section 1, township 9 south, range 4 east. This land has grown alfalfa seed for nineteen years in succession, and this seed is from the nineteenth crop.

**12410 to 12448.**

Drug and medicinal seeds and plants ordered for the cooperative work conducted by Dr. R. H. True, of this Department.

**12410 to 12422.**

From Paris, France. Received thru Vilmorin-Andrieux &amp; Co., 4 Quai de la Mégisserie, December 29, 1904.

**12410.** ACONITUM NAPEL-  
LUS.**12417.** THYMUS VUL-  
GARIS.**12411.** ACONITUM NAPEL-  
LUS.**12418.** ROSMARINUS OFFI-  
CINALIS.**12412.** HYOSCYAMUS NI-  
GER.**12419.** SATUREJA HORTEN-  
SIS.**12413.** LAVANDULA VERA.**12420.** DELPHINIUM STA-  
PHISAGRIA.**12414.** CARUM CARUI.**12421.** ECBALLIUM ELA-  
TERIUM.**12415.** PYRETHRUM RO-  
SEUM.**12422.** ORIGANUM VUL-  
GARE.**12416.** PYRETHRUM CINE-  
RARIAEFOLIUM.**12423. SALVIA OFFICINALIS.****Sage.**

From Philadelphia, Pa. Received thru W. Atlee Burpee &amp; Co., November 30, 1904.

*Broad-leaved.***12424 and 12425. ECHINACEA ANGUSTIFOLIA.**

From Manhattan, Kans. Received thru Mr. H. W. Baker, November 28, 1904.

**12424.** Plants.**12425.** Seeds.

**12410 to 12448**—Continued.

12426 to 12441.

From Erfurt, Germany. Received thru Hauge &amp; Schmidt, December 24, 1904.

12426. *ECBALLIUM ELATERIUM*.12434. *PYRETHRUM ROSEUM*.12427. *ACONITUM NAPELUS*.12435. *PYRETHRUM CINERARIAEFOLIUM*.12428. *ACONITUM NAPELUS*.12436. *COLCHICUM AUTUMNALE*.12429. *HYOSCYAMUS NIGER*.12437. *THYMUS VULGARIS*.12430. *LAVANDULA VERA*.12438. *ROSMARINUS OFFICINALIS*.12431. *CARUM AJOWAN*.12439. *SATUREJA HORTENSIS*.12432. *ORIGANUM VULGARE*.12440. *BRYONIA ALBA*.12433. *DELPHINIUM STAPHISAGRIA*.12441. *BRYONIA DIOICA*.12442. *CASSIA ANGUSTIFOLIA*.

Senna.

From Corpus Christi, Tex. Received thru Mr. H. H. Fisher, October 31, 1904.

12443 to 12446. *PANAX GINSENG*.

Ginseng.

From Cuba, N. Y. Received thru Bates Ginseng Gardens, October 31, 1904.

12443. One-year-old roots.

12445. Three-year-old roots.

12444. Two-year-old roots.

12446. Germinated seed.

12447. *MONARDA FISTULOSA*.

Wild bergamot.

From Rochester, Mich. Received thru Mr. Wilfred A. Brotherton, November 14, 1904.

12448. *MONARDA PUNCTATA*.

Horsemint.

From La Crosse, Wis. Received thru Dr. E. C. Swarthout, October 28, 1904.

**12449 and 12450. DAHLIA spp.**

Dahlia.

From Guadalajara, Mexico. Received thru Mr. Federico Chisolm, December 27, 1904.

Seeds collected near Ixtlahuacan del Rio, Jalisco, Mexico, northwest from Guadalajara.

12449. White.

12450. Striped.

**12451. EUTREMA WASABI.**

Japanese horse-radish.

From Yokohama, Japan. Received thru the Yokohama Nursery Company, December 29, 1904.

(Described in detail in Bulletin No. 42 of the Bureau of Plant Industry.)

**12452. ARALIA CORDATA.**

Kan udo.

From Yokohama, Japan. Received thru the Yokohama Nursery Company, December 29, 1904.

(For description, see Bulletin No. 42 of the Bureau of Plant Industry.)

**12453 to 12547. ORYZA SATIVA.****Rice.**

"Samples of rice received in answer to requests made of the various persons furnishing same, for testing in connection with the efforts now being made for the purpose of finding a variety resistant to the disease known as rotten-neck, threatening the rice-growing industry in the Carolinas." (*Fairchild.*)

**12453 to 12463.****Rice.**

From Paris, France. Presented by Vilmorin-Andrieux & Co. Received July 29, 1904.

Samples of unhulled rice as follows:

- |   |  |
|---|--|
| 12453. <i>Piemontese</i> rice, <i>Novarese</i> . One of the most valued for its yield and its quality. It is, however, grown in Lombardy on soil only which has carried a rice crop the previous season, as on fresh land it easily takes the disease called "brusone." |  |
| 12454. <i>Piemontese</i> rice, <i>Bertone</i> . Usually grown on fresh land, is resistant to the "brusone," and the hulled rice is inferior to the <i>Novarese</i> .  |  |
| 12455. <i>Piemontese</i> rice, <i>Javanese</i> . Thrives on all kinds of land. It is pretty resistant to "brusone," but is very late, lacks quality and sheds its seeds too easily when being cut.  |  |
| 12456. <i>Piemontese</i> rice, <i>nostrano</i> . Takes too easily the disease "brusone," and is consequently little grown in Lombardy. It is somewhat used in the perpetual rice fields of the Po Valley, where it seems to be more resistant.                          |  |
| 12457. <i>Piemontese</i> rice, <i>leoncino</i> . Very productive Japanese rice, of good quality, with a golden spike. Recommended for wet, compact, rich land.  |  |
| 12458. <i>Piemontese</i> rice, <i>francone</i> .  | 12461. <i>Egyptian</i> rice, <i>yamani</i> . |
| 12459. <i>Egyptian</i> rice, <i>jino</i> .  | 12462. <i>Dry Mountain</i> rice.             |
| 12460. <i>Egyptian</i> rice, <i>sultanie</i> .  | 12463. Dry rice from Manchuria.              |

**12464 to 12478.****Rice.**

From Colombo, Ceylon. Presented by Dr. C. Driberg, superintendent of School Gardens. Received October 21 and 24, 1904.

- 12464. *Kurusivru* paddy. White grain in black husk. From Kegalle district.
- 12465. *Muttusamba* paddy. Superior variety for table use. From Kegalle district.
- 12466. *Kaiurusamba* paddy. From Kegalle district.
- 12467. *Kirinaran* paddy. From Bentota district.
- 12468. *Suduwe* paddy. From Bentota district.
- 12469. *Yal-tatu-hel* paddy. From high elevation, Uva Province.
- 12470. *Mudu-kiri-hel* paddy. From high elevation, Uva Province.
- 12471. *Ceylon Carolina* paddy. From Hauwella, 30 miles inland from Colombo.
- 12472. *Ceylon Carolina* paddy. From Mount Lavinia, 7 miles south of Colombo.
- 12473. *Kiusui* (Japanese) paddy. Grown in the Government Stock Garden.
- 12474. *Ingrese ve*. From Elakake, 4 miles inland from Bentatte, about halfway from Colombo to Galle.
- 12475. *Kuru-vi* paddy. From Madampe, Northwestern Province.



**12453 to 12547** -Continued.**12464 to 12478** -Continued.

- 12476.** *Rata-vi* paddy. From Madampe, North Central Province. Somewhat mixed with native varieties.
- 12477.** *Puluk-hsmban* paddy. From Kegalle district.
- 12478.** *Rat-hel* paddy. Up-country grain, inclined to be white, tho husk is rather dark.

**12479 to 12488.****Rice.**

From Singapore, Straits Settlements. Presented by Mr. R. Derry, assistant superintendent of the Botanical Gardens. Received November 9, 1904.

- 12479.** *Along* paddy. Used for making flour, and when cooked is hard and white. Always used by the natives.
- Mr. Derry uses the term "paddy" to signify wet-land rice, and the term "pulot" to indicate dry-land rice.
- 12480.** *Krencho* (or *Keroncho*) paddy. Used same as 12479; price same also.
- 12481.** *Chemara-putri* paddy. Used same as 12479; price same also.
- 12482.** *Seri-bumi* paddy. First-class flour for making cakes; pure white when cooked.
- 12483.** *Seroupe* paddy. First-class flour for cakes and for the natives.
- 12484.** *Radin* paddy. Used for rice by the natives.
- 12485.** *Bunga-meloug* pulot. Used for making cakes of any kind, but when cooked is hard and white.
- 12486.** *Soung-ular* pulot. Use and price same as 12485.
- 12487.** *Merah* pulot (or paddy). Use and price same as 12485.
- 12488.** *Manek* paddy. Used only for feeding turtledoves and ring-doves.

**12489 to 12512.****Rice.**

From Georgetown, Demerara, British Guiana. Presented by Mr. B. Howell Jones. Received in August, 1904.

- 12489.** Rice of the kind usually grown in British Guiana.

**12490 to 12511.**

Samples experimentally grown at the Georgetown Botanical Gardens from imported Ceylon rice. They are distinguished by number only. Nos. 12490 to 12503 are "Ordinary rice." Nos. 12504 to 12511 are what are known as "Hill rice."

- 12512.** From the Berbice River district.

**12513 to 12515.****Rice.**

From Bulkeley, Ramleh, Egypt. Presented by Hon. Lionel Sandars. Received during the summer of 1904.

- 12513.** *Yaban* (or *Yapani*) paddy. From Daira Draneht Pasha, Kafr-el-Dawar.
- 12514.** *Soultani* (or *Sultani*) paddy. Same source as 12513.
- 12515.** *Sabaini* (or *Sabini*) paddy. Same source as 12513.

**12516 to 12518.****Rice.**

From Siam. Presented by the Arracan Company, of Bangkok, thru Dr. T. Heywood Hays, of that place. Received October 21, 1904.

- 12516.** *Naichonchisee* paddy. Usually considered the finest quality in Bangkok.
- 12517.** *Sakakrang* paddy. Good quality; long grain.
- 12518.** *Paknampho* paddy. Medium quality.

**12453 to 12547—Continued.****12519 to 12520.****Rice.**

From Italy. Presented by Messrs. Dammann & Co., San Giovanni a Teduccio, near Naples. Received October 3, 1904.

**12519.** *Italian.* No special name given.

**12520.** *Italian.* No special name given; probably the same kind as 12519.

**12521. Thessaly.****Rice.**

From Greece. Presented by Mr. S. Xanthopaulo, Station Agricole, Patras. Received in August, 1904.

**12522.****Rice.**

From Brazil. Presented by Consul Louis H. Aymé, Para. Received in August, 1904.

Rice paddy, like that grown in the districts of Guama and Irituba, in the State of Maranhac, Brazil, in a black loam, either overlying or mixt with sandy gravel and sandstone. The rice is called *Carolina*.

**12523 and 12524.****Rice.**

From German East Africa. Presented by Mr. Udo von Katte, Plantage Kigome, Bezirk Tanga. Received October 5, 1904.

**12523.** *Nondro* paddy.

**12524.** *Kikanda* paddy.

**12525 to 12547.****Rice.**

From Java. Presented by Mr. Charles A. Franc, Soerabaya, Java, Dutch East Indies. Received November 17, 1904.

**12525 to 12540.** *Ampeuan* paddy.

**12544.** *Solo "A"* paddy.

**12545.** *Solo "B"* paddy.

**12541.** *Magetan* paddy.

**12546.** *Djember* paddy.

**12542.** *Pekalongan* paddy.

**12547.** *Djember* paddy.

**12543.** *Pekalongan* paddy.

**12548. CRATAEGUS sp. (?)**

From City of Mexico, Mexico. Received from Mr. G. Clark, thru Mr. G. Onderdonk, of Nursery, Tex., December 31, 1904.

This species of *Crataegus* is used in different parts of Mexico as a stock upon which the European and American type of pears are grafted. In a letter of May 30, 1904, Mr. Onderdonk describes the use of this stock as follows: "While there is to be found an occasional young *tijocate* growing in a cultivated lot with intention of being made a stock for pears by grafting where it stands, yet no nurseries of it exist. It grows wild in the most forbidding situations. The earliest fruits begin to ripen about the last of July, while the largest number mature about October or November. I saw many fine old pear trees in different parts of Mexico on *tijocate* stock, and for the European and American type of pears there can be no better stock than *tijocate*."

**12549. MEDICAGO SATIVA.****Alfalfa.**

From Buenos Aires, Argentina. Received thru Mr. Ronaldo Tidblom, August 12, 1905.

**12550. POA PRATENSIS.****Kentucky bluegrass.**

From Winchester, Ky. Received thru Mr. D. S. Gay, December 2, 1904.

**12551. (Undetermined.)**

From Central Africa. Presented by Mrs. Anita N. McGee, 1620 P street, Washington, D. C. Received thru Mr. David Fairchild, December 31, 1904.

A single plant, said to be the first of its kind ever brought to America and to belong to the order Scitamineae. The plant was introduced by Mr. Vernon, who brought the Pigmies to the Louisiana Purchase Exposition. (*Fairchild*.)

**12552. AMYGDALUS COMMUNIS.****Almond.**

From Niles, Cal. Received thru the California Nursery Company, January 4, 1905.

*Jordan.* "These trees are from stock introduced by Mr. John Rock, seed of which was submitted to the United States consul in Malaga, and pronounced the true Jordan type. They are not from trees of stocks introduced by this Department." (*Fairchild.*)

**12553 to 12556. TERMINALIA sp.****Myrobalan.**

From New York, N. Y. Received thru A. Klipstein & Co., 122 Pearl street, July 11 and August 1, 1904.

**12553.** *Jubblepore*, No. 1.

**12555.** *Jubblepore*, No. 1.

**12554.** *Bhinleys*, No. 2.

**12556.** *Bimley*, No. 2.

"The fruits of the myrobalan contain one of the best tanning substances in the world. Large quantities of myrobalans are exported from India to England, and it is believed that the cultivation of these trees, of which there are evidently several species, may be a lucrative one in parts of California. The tree is known to be a drought-resistant species and suited to extremely hot climates. Some of the species are trees and, consequently, may withstand the slight cold to which they will be subjected in California." (*Fairchild.*)

**12557 and 12558. ZEA MAYS.****Sweet corn.**

Selected seed corn for use in a series of experiments to determine the effect of soil, location, etc., on standard varieties of sweet corn, the idea being to distribute this seed to reliable parties in different localities, and to secure from them samples of the product for examination and further distribution.

**12557.** Received from Mr. A. N. Clark, Milford, Conn., March 25, 1904.

*Stowell's Evergreen.*

**12558.** Received from Mr. A. N. Clark, Milford, Conn., March 25, 1904.

*Early Crosby.*

**12559 to 12561. ZEA MAYS.****Sweet corn.**

From Falls Church, Va. Received thru Mr. Upton Galligher, March 25, 1904.

**12559.** *Malakof.* Grown in 1903 from S. P. I. No. 9357.

**12560.** *Malakof.* Selected ears.

**12561.** *Malakof.* Grown in 1903 from S. P. I. No. 9356

**12562. ZEA MAYS.****Sweet corn.**

From Auburn, N. Y. Received thru Mr. G. W. Boynton, May 6, 1904.

*Malakof.* Seed from selected amber ears, probably from same lot as S. P. I. No. 10401.

**12563. ZEA MAYS.****Sweet corn.**

From Garrettsville, Ohio. Received thru Mr. George J. Streator, May 6, 1904.

*Malakof.* Seed from selected ears.

**12564. DAHLIA sp.****Dahlia.**

From Guadalajara, Mexico. Received thru Mr. Federico Chisolm, December 30, 1904.

**12565. LILIAM sp.****Lily.**

From Guadalajara, Mexico. Received thru Mr. Federico Chisolm, January 4, 1905.

**12566 to 12576.**

From Tunis, North Africa. Secured by Mr. Thomas H. Kearney during his exploration of Tunis. Received January 4, 1905.

A collection of economic plants as follows:

**12566 to 12568. PUNICA GRANATUM.****Pomegranate.**

From the premises of M. Robert, Kalaâ Srira, Susa.

**12566.** Red fruited.**12568.** White-fruited variety from Gabes.**12567.** *Chelfi*. White fruited.

"These pomegranates are the best sorts grown in Tunis. The first two seem to be peculiar to Susa." (*Kearney.*)

**12569 to 12573. OLEA EUROPAEA.****Olive.**

From the premises of M. Robert, Kalaâ Srira, Susa.

**12569.** *Baroumi* (fruit mucronate).**12570.** *Baroumi* (fruit not mucronate).

"This is the largest olive in the country, and M. Robert's is about the only place where it can be secured." (*Kearney.*)

**12571.** *Zarazi* (?).

"This is a medium-sized olive and is the most-generally planted preserving olive in the country, being common even to the oases of the Jerid. It is probably a hardy sort, and one easily adapted to a variety of conditions. As soon as I see M. Minangoïn I shall find out definitely if it is actually the *Zarazi* that I have obtained." (*Kearney.*)

**12572.** *Bidh Hammam*.

This is one of the largest olives of Tunis.

**12573.** *Chemlali*. From Sfax, Tunis.

"It is doubtful if this is a desirable sort, as the oil produced from it is said to contain too much margarin." (*Kearney.*)

**12574 to 12576. MESEMBRYANTHEMUM spp.**

From Sfax, Tunis.

**12574.** With yellow flowers.**12576.** With rose-violet flowers.**12575.** With rose-colored flowers.

"The first two kinds are used here as border plants, and also for holding banks at roadsides, while the last is made use of in the Jardin Public as a lawn plant. These grow well in this dry soil without attention after the first two weeks after planting." (*Kearney.*)

**12577. POTERIUM SANGUISORBA.****Burnett.**

From New York, N. Y. Received thru J. M. Thorburn & Co., January 5, 1905.

**12578 to 12668. SOLANUM TUBEROSUM.****Potato.**

From Europe. Secured by Prof. L. R. Jones, of the University of Vermont, during a trip thru the potato-growing regions of Europe in 1904. Notes by Professor Jones.

**12578 to 12596.**

From Berlin, Germany. Received thru the Potato Culture Station, December 14, 1904.

**12578.**

*Geheimrat Theil*. (L. R. Jones's No. 1.) Originated by Richter. Skin white, flesh white. (See description in *Berichte Deutsch. Kart.-Kult.-Stat.*, 1903, p. 53.)

Recommended by Professor Eckenbrecher and independently by his foreman, Mr. Goese, as showing a high degree of disease resistance and being a good general-purpose potato.

**12578 to 12668—Continued.****12578 to 12596—Continued.****12579.**

*Sophie.* (L. R. Jones's No. 2.) Originated by Cimbal. White skin, yellowish-white flesh. (See description in *Berichte Deutsch. Kart.-Kult.-Stat.*, 1903, pp. 37 and 53.)

Recommended by Professor Eckenbrecher as one of the most productive of table varieties. Fairly resistant to disease; suited to various soils.

**12580.**

*Dabersche.* (L. R. Jones's No. 3.) Originator unknown. Skin pale red, flesh white-yellowish. (For further notes, see any of reports of *Deutsch. Kart.-Kult.-Stat.*, e. g., 1903, pp. 34 and 53.)

This was ordered because it is the standard table variety in the trials of the German station. It is one of the most widely cultivated food potatoes in Germany; an old variety. Professor Eckenbrecher reports it as most liable to scab and liable to rot.

Sorauer says that it is suited to sandy soils. Foreman Goese says it is not suitable for heavy soils. Doctor Appel finds it one of the most resistant to "Schwarzbeinigkeit."

**12581.**

*Richter's Imperator.* (L. R. Jones's No. 4.) Originated by Richter. Skin white, flesh white. (For description, see any report of the *Deutsch. Kart.-Kult.-Stat.*, e. g., 1903, pp. 35 and 52.)

Chosen for two reasons: (1) It is one of the most uniformly resistant to scab of the varieties reported upon by Professor Eckenbrecher for a long series of years. (2) It is taken at this German station as the typical heavy yielding factory potato. It is also a fair table variety. Not especially resistant to disease except scab; suited to all except wetter soils.

**12582.**

*Magnum Bonum.* (L. R. Jones's No. 5.) Originated by Sutton. Skin white, flesh white; a medium late variety which is a standard table potato of north central Europe. (See further description in *Berichte Deutsch. Kart.-Kult.-Stat.*, 1903, pp. 43 and 53.)

Prunet, Frank, Sorauer, and others report this to be the most resistant to *Phytophthora* of any variety. Suited to all soils, according to Foreman Goese.

**12583.**

*Irene.* (L. R. Jones's No. 6.) Originated by Paulsen. Skin red, flesh white. (See further description in *Berichte Deutsch. Kart.-Kult.-Stat.*, 1903, pp. 39 and 43.)

A medium late variety which has been found in the trials of this station second only to *Mohort* in resistance to diseases (rots, etc.). It is also very resistant to scab. According to Foreman Goese, suited to good soils but not to light sands.

**12584.**

*Professor Maerker.* (L. R. Jones's No. 7.) Originated by Richter. Flesh white. (See further description in *Berichte Deutsch. Kart.-Kult.-Stat.*, 1897, p. 29; 1903, pp. 42 and 52.) This is a medium late variety, exceedingly productive, and a favorite sort in Germany for factory purposes, as well as a good table variety. It has shown good scab resistance, and was recommended by Foreman Goese and Professor Eckenbrecher for general disease resistance. Foreman Goese says that it is suited to all soils.

**12585.**

*Silesia.* (L. R. Jones's No. 8.) Originated by Cimbal. Flesh and skin white. (See further description in *Berichte Deutsch. Kart.-Kult.-Stat.*, 1899, p. 35; 1903, p. 42.)



**12578 to 12668—Continued.****12578 to 12596—Continued.**

A very late variety. Very heavy yielder and high percentage of starch, therefore one of the highest in total starch product. Only fairly resistant to disease, but included upon recommendation of Professor Eckenbrecher. Foreman Goese says that it is suited to all soils.

**12586.**

*Max Eyth.* (L. R. Jones's No. 9.) Originated by Cimbal. This is a late potato, of good quality and starch content, described in the *Berichte Deutsch. Kart.-Kult.-Stat.*

Ordered because Foreman Goese stated that he considered this the most resistant variety toward *Phytophthora*, and added that it is suited to all soils.

**12587.**

*Mohort.* (L. R. Jones's No. 10.) Originated by Dolkowski. White skin, white flesh. (See further description in *Berichte Deutsch. Kart.-Kult.-Stat.*, 1903, pp. 37 and 42.)

Selected because reported (1903, etc.) as the most highly resistant to diseases (rot, etc.) of any variety tested; also fairly resistant to scab. Excellent table variety; high yielder; high starch content. Foreman Goese says that it is suited to all soils.

**12588.**

*Gastold.* (L. R. Jones's No. 11.) Originated by Dolkowski. White skin, white flesh, middle late. (See further description in *Berichte Deutsch. Kart.-Kult.-Stat.*, 1903, pp. 35 and 42.)

Selected because next to *President Krüger* this appears to be the most productive variety they have. Fair degree of general disease resistance. Esteemed alike for table and factory. Foreman Goese says that it is suited to all soils.

**12589.**

*President Krüger.* (L. R. Jones's No. 12.) Originated by Cimbal. White skin, white flesh, late variety. (See further description in *Berichte Deutsch. Kart.-Kult.-Stat.*, 1903, pp. 35, 42, and 52.)

Selected because it has proved to be an enormous yielder, leading all varieties in most trials. It is of rather low starch content and recommended only for factory purposes. Foreman Goese says that it is suited to all good soils.

**12590.**

*Professor Wohltmann.* (L. R. Jones's No. 13.) Originated by Cimbal. Skin red, flesh white. (See further description in *Berichte Deutsch. Kart.-Kult.-Stat.*, 1900, p. 35; 1903, pp. 43 and 52.) Late variety.

Selected because reported as highly resistant to scab. Large yielder and high starch content. Esteemed both for factory and table purposes. Foreman Goese says it needs a good, rich soil.

**12591.**

*Topas.* (L. R. Jones's No. 14.) Originated by Dolkowski. Skin white, flesh white. (See further description in *Berichte Deutsch. Kart.-Kult.-Stat.*, 1900, p. 35; 1903, p. 42.) Medium early.

According to reports a good disease-resistant sort, good yielder, rich in starch, suitable for table and factory use.

Selected because Doctor Appel observed in 1902 that this showed the highest degree of resistance to *Phytophthora* of any variety in his fields. (See his article, "Die diesjährige *Phytophthora*-Epidemie," *Deutsche Landw. Presse*, XXIX, 685.) Foreman Goese says that it is suited to all soils.

**12592.**

*Boncza.* (L. R. Jones's No. 16.) Originated by Dolkowski. Skin red, flesh white, medium late. (See further description in *Berichte Deutsch. Kart.-Kult.-Stat.*, 1901, p. 36; 1903, p. 42.)

**12578 to 12668—Continued.****12578 to 12596—Continued.**

This is not a very large yielder, but is very rich in starch (excelled all others in 1901); a very good table variety.

According to 1901 reports it is most highly resistant to disease (rots, etc.) and also resistant to scab. Selected because of this. Mr. Goese says that it is suited to all soils.

**12593.**

*Leo.* (L. R. Jones's No. 17.) Originated by Pflug. Skin white, flesh white, medium late. (See further description in *Berichte Deutsch. Kart.-Kult.-Stat.*, 1902, p. 35; 1903, pp. 42 and 52.)

This is not especially disease resistant, but was included upon recommendation of Professor Eckenbrecher, since it is one of the heaviest yielding varieties of high starch content and therefore very high total starch product on the average.

Medium late. Especially a factory variety, but also a good table potato. Mr. Goese says that it is similar to Richter's *Imperator*, and suited to all except moist soils.

**12594.**

*Fürst Bismarck.* (L. R. Jones's No. 18.) Originated by Cimbäl. Skin red, flesh white, late. (See further description in *Berichte Deutsch. Kart.-Kult.-Stat.*, 1901, p. 37; 1903, p. 43.)

Exceedingly rich in starch and fair yielder. Recommended both for factory and table use. Professor Eckenbrecher has found this especially free from rot (*Berichte*, 1899), and it is included upon his recommendation for disease resistance. Mr. Goese says that it is suited for all good soils, but not for sand.

**12595.**

*Apollo.* (L. R. Jones's No. 19.) Originated by Paulsen. Skin white, white-yellowish. (See further description in *Berichte Deutsch. Kart.-Kult.-Stat.*, 1901; also 1903, pp. 36 and 53.)

Highly productive for starch content; recommended first for factory use, but also as a table variety. Here included upon the personal recommendation of Professor Eckenbrecher, who has found, during three years' trials, that it is highly resistant to disease (rots, etc.) and fairly resistant to scab. Mr. Goese says that it is suited to all soils.

**12596.**

*Gelbfleischige Speisekartoffel.* (L. R. Jones's No. 20.) Originated by Cimbäl. Skin white, flesh yellowish, rather late ripening. (See further description in *Berichte Deutsch. Kart.-Kult.-Stat.*, 1903, pp. 40 and 53.)

This is a medium yielder, not recommended at all for factory purposes but as an excellent yellow-fleshed table potato. Included for this reason. It is reputed as rather susceptible to diseases. Mr. Goese says that it is suited to all soils.

**12597 to 12601.**

From Groningen, Holland. Received thru Mr. U. J. Mansholt, rijks-bauwleeraar, November 30, 1904.

**12597.**

*Eigenheimer.* (L. R. Jones's No. 31.) Recommended by Mr. Mansholt as an early yellow-fleshed variety, good for table use, and resistant to *Phytophthora*.

**12598.**

*Landskroon.* (L. R. Jones's No. 32.) Recommended by Mr. Mansholt as a middle early white-fleshed potato, good for table use, and resistant to *Phytophthora*.

**12599.**

*Eureka.* (L. R. Jones's No. 33.) Recommended by Mr. Mansholt as a middle early variety for factory rather than table use, and resistant to *Phytophthora*.

**12578 to 12668—Continued.****12597 to 12601—Continued.****12600.**

*Malador.* (L. R. Jones's No. 34.) Recommended by Mr. Mansholt as a late, yellow-fleshed, good table variety, and resistant to *Phytophthora*.

**12601.**

*Daisy.* (L. R. Jones's No. 35.) Recommended by Mr. Mansholt as a late factory variety and resistant to *Phytophthora*.

**12602 to 12607.**

From Paris, France. Received thru Vilmorin-Andrieux & Co., September 22, 1904.

**12602.**

*Belle de Fontenay.* (L. R. Jones's No. 36.) Recommended by Vilmorin-Andrieux & Co. as a very early variety of high vigor and productiveness. Tubers oblong, skin and flesh yellow. Esteemed one of the best early potatoes; the standard in the Paris market. Stands shipment well and esteemed for "French fried" potatoes; prefers a fairly moist soil in France; recommended especially for trial in the South.

**12603.**

*Brandale.* (L. R. Jones's No. 37.) Recommended by Vilmorin-Andrieux & Co. as a very early variety with oblong tubers, yellow skin and yellow flesh, and worthy of trial in Florida.

**12604.**

*Early Rose.* (L. R. Jones's No. 38.) This is very extensively grown as an early potato in France, and is the only white-fleshed early potato Vilmorin-Andrieux & Co. could recommend. They consider it of high vigor and productiveness.

**12605.**

*Chave* (Shaw). (L. R. Jones's No. 39.) This is a standard French variety, round tubers, yellow flesh, and yellow skin. Recommended by Vilmorin-Andrieux & Co. as of high vigor and productiveness and worthy of trial in our Southern States.

Doctor Delacroix considers this the most resistant of the French varieties to *Phytophthora* and similar in this respect to *Magnum Bonum* among the English varieties.

**12606.**

*Belle de Juillet.* (L. R. Jones's No. 40.) Second early. Oblong tubers, skin and flesh yellow. Recommended for trial, especially in the South, by Vilmorin-Andrieux & Co. as an especially vigorous and productive variety. "I found what I take to be the same variety to be the favorite potato grown at Florence (Experiment Farm), for the northern export and trade. It is also grown and highly esteemed in Germany." (Jones.)

**12607.**

*Quarantaine de la Halle.* (L. R. Jones's No. 42.) This was described as a medium-early variety of high vigor and productiveness, recommended for trial culture in Florida, etc. Oblong tubers, skin and flesh yellow.

**12608 to 12613.**

From Reading, England. Received thru Sutton & Sons, December 31, 1904.

**12608.**

*May Queen.* (L. R. Jones's No. 51.) Sutton's origination. Very early; kidney shape, shallow eyes, yellow skin, a very handsome potato,

**12578 to 12668—Continued.****12608 to 12613—Continued.**

and reputed as of high quality and fair yield for so early a variety. Recommended by Sutton and various others as worthy of trial in Florida. Mr. Scarlett advises to plant whole tubers and rather close together, as tops are small.

**12609.**

*Ninetyfold*. (L. R. Jones's No. 52.) Originated by Sutton. "First early;" white skin and flesh. Good kidney shape but not quite so uniform and handsome as *May Queen*, and eyes somewhat deeper. Rated a better cropper. A good authority states "one of heaviest croppers among the first earliest; therefore profitable to grow, although quality is not of best." Opinions differ as to disease resistance. Various persons recommend this for trial in Florida, etc.

**12610.**

*Epicure*. (L. R. Jones's No. 53.) Originated by Sutton. A "second early" variety; bronzy red skin; flesh white; recommended highly by Sutton, but this is not indorsed by all others consulted. Secured especially for trials in South.

**12611.**

*Supreme*. (L. R. Jones's No. 54.) Originated by Sutton & Sons. A "second early," but a little earlier than *Epicure*. White. This makes a small top and is not altogether promising. It was, however, recommended by the Suttons for trial, especially in the South. It seemed comparatively free from "Schwarzbeinigkeit," as seen at Cambridge, England.

**12612.**

*Windsor Castle*. (L. R. Jones's No. 55.) A "second early" variety; yellow skin, white flesh, roundish, recommended by the Suttons as highest quality for table. It was also indorsed by others as worthy of trial, especially in the South.

**12613.**

*Discovery*. (L. R. Jones's No. 56.) This is one of Sutton's latest originations. It is medium late, yellow skin, white flesh, kidney shape, excellent quality and strong yielder. Sutton's people rate it as their greatest production, and the opinion of unbiased potato experts so far as consulted is that this is the most promising disease-resistant potato in England to-day.

**12614 to 12619.**

From Edinburgh, Scotland. Received thru Mr. T. A. Scarlett, December 31, 1904.

**12614.**

*Sir John Llewellyn*. (L. R. Jones's No. 57.) This is recommended most highly of all early potatoes in England.

Recently introduced by Harris, Wales; season is "first early;" white skin, white flesh, flattish-oval kidney shape, fine appearance and strong cropper, quality not of best; likes a good soil, and is a strong feeder. Said to have a tendency to develop sports. This is noteworthy, since it may prove more promising for selection of disease-resistant plants.

**12615.**

*King Edward VII*. (L. R. Jones's No. 58.) This is one of recently originated varieties. Sent out by Butler. Late second early. Pink skin, flesh white, said to yellow somewhat when cooked. Said to be productive but not of highest quality. Ordered on recommendation of W. P. Wright, secretary of the National Potato Society. Most other opinions given were adverse to its value as a disease resister.

**12578 to 12668—Continued.****12614 to 12619—Continued.****12616.**

*Cramond Blossom.* (L. R. Jones's No. 59.) Of recent origin in the Scotch village of Cramond. Season, "late second early." Oval. Recommended for our trials as a disease-resistant variety by W. P. Wright, secretary of the National Potato Society, but this opinion was not concurred in by several others. Mr. Scarlett finds it liable to disease; so also do the Suttons and Middleton.

**12617.**

*Charles Fidler.* (L. R. Jones's No. 60.) Recent origin, sent out by Fidler. This is a late potato, white, said by Mr. Lasham to be practically the same as the German variety *Imperator*, if not identical with that sort. Recommended as worthy of trial for disease resistance both by Mr. W. P. Wright, secretary of the National Potato Society and by men at the Cambridge University farm.

**12618.**

*Factor.* (L. R. Jones's No. 61.) This is one of the newer varieties sent out by Dobbie. It is late; very well spoken of by all. Closely resembles the popular standard *Up-to-Date*, but said to be of slightly better quality. Recommended for our trial by W. P. Wright, secretary of the National Potato Society; also by men at the Cambridge University farm, etc.

**12619.**

*Duke of York.* (L. R. Jones's No. 62.) This is one of the highly esteemed earlier varieties, recommended especially by the Cambridge University farm authorities. Also well spoken of by Mr. Scarlett.

**12620 to 12642.**

In addition to Jones's Nos. 57 to 63, ordered from Mr. Scarlett, the latter was authorized to include various others of the most promising Scotch potatoes which he judged worthy of trial. In accordance therewith, he included the following 23 varieties:

<b>12620.</b> <i>Langworthy.</i>	<b>12632.</b> <i>Sharpe Express.</i>
<b>12621.</b> <i>Tyne Kidney.</i>	<b>12633.</b> <i>Midlothian Early.</i>
<b>12622.</b> <i>Table Talk.</i>	<b>12634.</b> <i>Southern Queen.</i>
<b>12623.</b> <i>Dalmeny Kidney.</i>	<b>12635.</b> <i>Wylun Early.</i>
<b>12624.</b> <i>Crofter.</i>	<b>12636.</b> <i>White Blossom.</i>
<b>12625.</b> <i>Scottish Queen.</i>	<b>12637.</b> <i>Red Kidney.</i>
<b>12626.</b> <i>Premier.</i>	<b>12638.</b> <i>Moneymaker.</i>
<b>12627.</b> <i>Northern Star.</i>	<b>12639.</b> <i>Sir Thomas Lipton.</i>
<b>12628.</b> <i>Pink Blossom.</i>	<b>12640.</b> <i>Radium.</i>
<b>12629.</b> <i>Peacemaker.</i>	<b>12641.</b> <i>Acme.</i>
<b>12630.</b> <i>Dalmev Red.</i>	<b>12642.</b> <i>Heather Blossom.</i>
<b>12631.</b> <i>Dalmev Early.</i>	

**12643 to 12668.**

From Cambridge, England. Received thru Mr. H. Henshaw, of Cambridge University farm, December 14, 1904.

<b>12643.</b> <i>Sutton's Discovery.</i>	<b>12647.</b> <i>Sutton's Ninety-fold.</i>
<b>12644.</b> <i>Sutton's Supreme.</i>	<b>12648.</b> <i>Findlay's Evergood.</i>
<b>12645.</b> <i>Sutton's Ideal.</i>	<b>12649.</b> <i>Findlay's Goodfellow.</i>
<b>12646.</b> <i>Sutton's Flour Ball.</i>	



**12578 to 12668—Continued.****12643 to 12668—Continued.**

<b>12650.</b> <i>Findlay's Up-to-Date.</i>	<b>12659.</b> <i>Dobbie's Factor.</i>
<b>12651.</b> <i>Findlay's Northern Star.</i>	<b>12660.</b> <i>Dobbie's Improved Kidney.</i>
<b>12652.</b> <i>Findlay's British Queen.</i>	<b>12661.</b> <i>Butler's King Edward VII.</i>
<b>12653.</b> <i>Fidler's Seedling.</i>	<b>12662.</b> <i>Sir John Llewellyn.</i>
<b>12654.</b> <i>Charles Fidler.</i>	<b>12663.</b> <i>Cramond Blossom.</i>
<b>12655.</b> <i>Carter's Snowball.</i>	<b>12664.</b> <i>Langworthy.</i>
<b>12656.</b> <i>Carter's Monarch.</i>	<b>12665.</b> <i>Duke of Rothesay.</i>
<b>12657.</b> <i>Kerr's Dumfries Model.</i>	<b>12666.</b> <i>Royal Kidney.</i>
<b>12658.</b> <i>Kerr's Duchess of Cornwall.</i>	<b>12667.</b> <i>Duke of York.</i>
	<b>12668.</b> <i>Empress Queen.</i>

**12669. CUCUMIS MELO.****Muskmelon.**

From Boston, Mass. Received thru R. & J. Farquhar & Co., January 6, 1905.  
*Montreal Nutmeg.*

**12670. ULEX EUROPAEUS.****Gorse, whin, or furze.**

From Dublin, Ireland. Received thru Hogg & Robertson, January 6, 1905.

"Fresh roots covered with root tubercles, imported in cooperation with the Laboratory of Plant Physiology for the purpose of getting cultures of the micro-organism of these tubercles to be used in experiments in the introduction of the plants, the seed of which was introduced under No. 12408." (*Fairchild.*)

**12671. MEDICAGO SATIVA.****Alfalfa.**

From Lawrence, Kans. Received thru F. Barteldes & Co., January 6, 1905.

**12672 to 12677. OLEA EUROPAEA.****Olive.**

From Tunis, North Africa. Secured by Mr. Thomas H. Kearney. Received January 6, 1905. A collection of olive cuttings from the premises of M. Robert, Kalaâ Sîra, Susa.

- 12672.** *Souaba el Alfia.* An oil olive. Rather a small yielder, according to Minangoin.
- 12673.** *Chaibi.* An uncommon but heavy yielding variety of oil olive that succeeds best in northern Tunis.
- 12674.** *Semmi* (butter). An olive which remains yellow green even when ripe; gives oil of very light color but of finest quality.
- 12675.** *Khadraya* (green). An oil olive.
- 12676.** *Kalb es Serdouk* (cock's heart). A small oil olive like Chemlali, yielding very heavily, adapted to dry lands.
- 12677.** *Nebkri.* Gives oil of finest quality.

**12678. PANICUM MAXIMUM.****Guinea grass.**

From Havana, Cuba. Received thru José Sagarmínaga, seedsman, Obispo 66.  
 January 7, 1905.

**12679. ORYZA SATIVA.****Rice.**

From Yokohama, Japan. Received thru the Yokohama Nursery Company, January 5, 1905.

*Sekai-ichi*, meaning the "World's No. 1," grown in Iyo, Shikoku Province, which received the first prize in the last Osaka exposition and is recommended as the best and nearest quality to the *Carolina Golden* by Mr. Kenzo Ikeda, the president of the Agricultural Society of Japan. (*Fairchild*.)

**12680. LILIUM PARDALINUM.****Lily.**

From Ukiah, Cal. Received thru Mr. Carl Purdy, January 5, 1904.

This lily is native to the Coast Range of mountains in California and Oregon. It is found at elevations varying from 1,000 to 5,000 feet. In its native state it is seen at its best growing along the edges of marshy valleys and in moist soil bordering springs and mountain streams. Under favorable conditions *Lilium pardalinum* increases from year to year, producing several new bulbs annually. Well-grown plants are quite as floriferous as the well-known St. Joseph's lily (*L. candidum*).

The flowers are arranged on long pedicels in an open raceme; the prevailing color is red or crimson, with the lower parts of the segments orange colored, and spotted with purple; the segments are much reflexed. There are, however, several varieties found in a wild state, varying from each other principally in the color of the flowers.

**12681. CASTANEA VESCA.****Chestnut.**

From San Giovanni a Teduccio, near Naples, Italy. Received thru Damman & Co., January 7, 1905.

**12682. GLADIOLUS hyb.****Gladiolus.**

From Chicago, Ill. Received thru Vaughan's Seed Store, January 7, 1905.  
*Princeps*.

**12683. NICOTIANA TABACUM.****Tobacco.**

From Wethersfield, Conn. Received thru Comstock, Ferre & Co., December 5, 1904.  
*Connecticut Seed Leaf*.

**12684 to 12692.**

From Zaouia du Mornag, about 20 kilometers from Tunis, Tunis. Collected by Mr. T. H. Kearney, December 24, 1904, in the garden of M. Giraud, president of the Horticultural Society. Received January 9, 1905.

**12684. OLEA EUROPAEA.****Olive.**

*Bidh el Hammam*. "The second largest olive of Tunis, and, according to Marzac, the best." (*Kearney*.)

**12685. OLEA EUROPAEA.****Olive.**

*Saiali Magloub*. "One of the best of the medium-sized olives. According to Minangoin it is not a heavy yielder, but I did not get the impression that it is inferior in this respect to the large table olives. Probably Minangoin criticized it in this respect as an oil olive, but it is said to be excellent for the table." (*Kearney*.)

**12686. CITRUS LIMONUM.****Lemon.**

*Quatre Saisons*. According to M. Giraud the best and the most widely grown lemon in Tunis; largely exported.

**12687. CITRUS AURANTIUM.****Orange.**

*Maltaise* (No. 1). A smooth-skinned, deep-colored orange.

**12688. CITRUS AURANTIUM.****Orange.**

*Maltaise* (No. 2). A smooth-skinned, large-leaved orange.

**12684 to 12692—Continued.**

- 12689.** CITRUS AURANTIUM. **Orange.**  
*Maltaise* (No. 3). Seedling.
- 12690.** CITRUS AURANTIUM. **Orange.**  
*Blood*, native variety.
- 12691.** CITRUS BIGARADIA. **Bergamot orange.**  
 A smooth-skinned bigarade (bergamot?), said to be the best variety for making preserves.
- 12692.** CITRUS AURANTIUM. **Orange.**  
*Trabelsi* (Tripoli). The most abundant orange of Tunis.

**12693. GARCINIA MORELLA. Gamboge.**

From Kingston, Jamaica. Received thru Prof. William Fawcett, January 11, 1905.

"Seeds of the tree producing the true gamboge of commerce, which is procured principally from Siam and is used as a pigment for dyeing silks and other fabrics. The rind of the fruit is also used for tanning purposes. Introduced for the purpose of testing as a stock upon which to graft the mangosteen (*G. mangostana*). The gamboge has a hardier root system and is a very vigorous growing tree, and for this reason may prove of value as a stock." (*Fairchild*.)

**12694 to 12696. MEDICAGO SATIVA. Alfalfa.**

From Paris, France. Received thru Vilmorin-Andrieux & Co., January 7, 1905.

- 12694.** Grown in Provence. **12696.** Grown in Italy.  
**12695.** Grown in Poitou.

**12697. ZEA MAYS. Sweet corn.**

From Philadelphia, Pa. Received thru Henry F. Michell Company, January 11, 1905.

*Sugar Loaf.*

**12698. PISUM SATIVUM. Pea.**

From New York, N. Y. Received thru J. M. Thorburn & Co., January 12, 1905.

*Thomas Laxton.*

**12699 to 12701.**

From New York, N. Y. Received thru J. M. Thorburn & Co., January 13, 1905.

Drug and medicinal seeds ordered for the cooperative work conducted by the Office of Drug Plant Investigations.

- 12699.** DIGITALIS PURPUREA. **12701.** PIMPINELLA ANISUM.  
**12700.** FOENICULUM DULCE.

**12702. MEDICAGO SATIVA. Alfalfa.**

From Sherman, Tex. Received thru Mrs. R. E. Smith, January 13, 1905.

**12703. ALLIUM FISTULOSUM. Welsh onion.**

From Santa Clara, Cal. Received thru C. C. Morse & Co., January 14, 1905.

*Forcing.* Grown from S. P. I. No. 9301.

**12704 to 12707.**

A collection of vegetable seeds for special tests.

**12708. MUSA TEXTILIS. Manila hemp.**

From Manila, P. I. Grown from seed received by Mr. G. W. Oliver, from Prof. W. S. Lyon, Insular Bureau of Agriculture, January 29, 1904.

**12709. HORDEUM TETRASTICHUM. Four-row barley.**

From Bozeman, Mont. Received thru Prof. F. B. Linfield, Agricultural Experiment Station, January 12, 1905.

*Hull-less.*

**12710. CYPERUS PAPYRUS. Papyrus.**

From Paris, France. Received thru Vilmorin-Andrieux & Co., January 14, 1905.

**12711 to 12715. ORYZA SATIVA. Rice.**

From Yokohama, Japan. Presented by the Yokohama Nursery Company. Received January 12, 1905.

**12711.** *Banshiu honba.* Produce of Hiogo Ken.

**12712.** *Kairio.* From Shin-no-yen, Kasia Gun, Harima, 30 miles west of Kobe.

This "Kairio" seed quality is reported to be very strong against any diseases and endures injurious attacks. Produce of Hiogo Ken.

**12713.** *Futafushi wase.* Produce of Kanagawa Ken.

**12714.** *Makuno uchi.* Produce of Kanagawa Ken.

**12715.** *Kokeju.* Produce of Kanagawa Ken.

All of the above-named rices require only the ordinary rice cultivation practiced in Japan. They must have plenty of water from time of sowing till the ears are well formed.

**12716. PSIDIIUM MOLLE (?). Guayabillo.**

From Guadalajara, Mexico. Received thru Mr. Federico Chisolm, January 14, 1905.

Packet of mixed seeds of strawberry and fig-flavored sorts collected at "La Trinidad," Guerrero, Mexico.

**12717 to 12732.**

A collection of vegetable seeds secured from various seedsmen for special testing purposes.

**12733. BEGONIA sp. Begonia.**

From Mount Vernon, N. Y. Received thru Mr. H. E. Le Page (representing Hubert & Co., Guernsey and Jersey, England), January 17, 1905.

Tuberous rooted.

**12734. RHAMNUS PURSHIANA. Cascara sagrada.**

From Olympia, Wash. Received thru Mr. A. W. McMurray, January 16, 1905.

Seedlings for cooperative work being conducted by the Office of Drug Plant Investigations.

**12735. ATRIPLEX SEMIBACCATA (?). Saltbush.**

From Tulare, Cal. Received thru Prof. A. V. Stubenrauch, January 17, 1905.

**12736. PHASEOLUS VULGARIS. Bean.**

From New York, N. Y. Received thru Peter Henderson & Co., January 16, 1905.

*Bush Bountiful* (green-podded).

**12737. SECHUM EDALE.****Chayote.**

From Dallas, Tex. Received thru Texas Seed and Floral Company, January 18, 1905.

**12738. DAHLIA MERCKII.****Dahlia.**

From Edinburgh, Scotland. Received thru Prof. Bayley Balfour, regius keeper, Royal Botanic Garden, January 18, 1905.

This species is hardy at Edinburgh.

**12739 to 12742. SACCHARUM OFFICINARUM.****Sugar cane.**

From Kingston, Jamaica. Received thru Mr. William Fawcett, director of Hope Gardens, January 16, 1905.

**12739.** *Bourbon.*

**12741.** *D. 99.*

**12740.** *B. 306.*

**12742.** *D. 115.*

**12743. PHASEOLUS VULGARIS.****Bean.**

From Columbus, Ohio. Received thru the Livingston Seed Company, January 18, 1905.

*Kennedy's Rustless Golden War.*

**12744. BETA VULGARIS.****Sugar beet.**

From Santa Clara, Cal. Received thru C. C. Morse & Co., January 19, 1905.

"Grown on C. C. Morse & Co.'s farm at Gilroy, Cal., for the general trade. Not the product of chemically analyzed roots, but rather from roots selected according to shape, size, etc., judged by their external appearance." (*J. E. W. Tracy.*)

**12745. BETA VULGARIS.****Sugar beet.**

From Fairfield, Wash. Received thru Mr. E. H. Morrison, January, 1905. Crop of 1904.

"Grown on E. H. Morrison's farm at Fairfield, Wash., for the general trade, from roots selected according to shape, size, etc., judged for their external appearance only." (*J. E. W. Tracy.*)

**12746. PISTACIA VERA.****Pistache.**

From Tashkend, Russian Central Asia. Received thru Mr. H. W. Dürschmidt, January 20, 1905.

**12747. MEDICAGO SATIVA.****Alfalfa.**

From Billings, Mont. Received thru Mr. I. D. O'Donnell, January 19, 1905.

**12748. MEDICAGO SATIVA.****Alfalfa.**

From Paris, France. Received thru Vilmorin-Andrieux & Co., January 20, 1905.

Seed grown in the state of Hesse, Germany, and is known as *Eifeler Luzerne* in the Rhine Province.

**12749 and 12750. CUCURBITA sp.****Squash.**

From Garrett Park, Md. Received thru Mr. D. S. Bliss, January 21, 1905. Grown from S. P. I. No. 9481 during the season of 1904.

**12749.** Large cylindrical sort.

**12750.** Crook-neck.

"The seeds of the large sort are from the first fruit that formed before any blossoms showed on any other vines, and, so far as I know, there were no other vines nearer than half a mile. The seeds of the smaller fruits are from a dozen mixed." (*Bliss.*)



**12751. (Undetermined.)**

From Barberton, Africa. Received thru Hon. W. Stanley Hollis, United States consul at Lourenço Marquez, Africa, January 14, 1905.

"A very fine, edible 'plum,' which grows in the mountains near Barberton on trees about 6 feet high." (*Hollis.*)

**12752. DOLICHOS UNIFLORUS.****"Kulthi."**

From Guard Hitlow Koppa, Mysore Province, India. Received thru Mr. W. Maxwell Maynard, January 20, 1905.

"According to Mr. Maynard this legume is grown extensively in India and fed to horses and working bullocks and is also considered valuable for using in the coffee estates. Sent by Mr. Maynard to Dr. George T. Moore for the purpose of interesting him in the cultivation of the micro-organism which forms the nodules on this as well as other leguminous plants." (*Fairchild.*)

**12753 and 12754. OLEA EUROPAEA.****Olive.**

From Sousse, Tunis. Collected by Mr. T. H. Kearney. Received January 21, 1905.

**12753. Barouni.****12754. Yacouti.****12755. CORNUS KOUSA.**

From New York, N. Y. Received thru Henry & Lee, 97 Water street, January 23, 1905.

**12756. BRASSICA NIGRA.****Black mustard.**

From Philadelphia, Pa. Received thru W. A. Burpee & Co., January 24, 1905. *Fordhook Fancy.*

**12757. BAMBUSA STRIATA.****Bamboo.**

From Niles, Cal. Received thru the California Nursery Company, January 25, 1905.

**12758. CYPHOMANDRA BETACEA.****Tree tomato.**

From Kingston, Jamaica. Received thru Mr. G. N. Collins, January, 1905.

"This is a species of South American shrub from the mountainous regions of Brazil, adjacent to Peru. Cultivated occasionally for the egg-shaped, reddish-brown, faintly striped fruits. Fruits about 2 inches long on slender stalks, 2 celled, seedy, musky acid and tomato-like in flavor; agreeable to those who like tomatoes." (*Bailey.*)

Bears the second or third year from seed under glass. This tomato has been successfully introduced into Jamaica, Ceylon, and other mountainous regions of the Tropics, and in many places is considered a valuable addition to the list of garden vegetables. It would, in all probability, thrive in Porto Rico. (*Cook and Collins, Contr. Nat. Herb., VIII, p. 132.*)

"Succeeds best with a mean annual temperature of 68° F. Can be propagated readily from seed in warm countries." (*Bailey's Forcing Book.*)

**12759 and 12760. ORYZA SATIVA.****Rice.**

From Buitenzorg, Java. Received thru Doctor Treub, of the Botanical Gardens, December 5, 1904.

**12759. Tjomas.****12760. Carolina.****12761 to 12765. ORYZA SATIVA.****Rice.**

From Yokohama, Japan. Presented by the Yokohama Nursery Company. Received December 12, 1904.

Unhulled rice as follows:

**12761. Bankoku ichi.****12764. Sekitori.****12762. Jugoya.****12765. Ko-zo.****12763. Makuno uchi.**

**12766 to 12768.**

From Wonsan, Korea. Received thru Mr. C. F. S. Bilbrough, Chosen Holme, January 21, 1905.

**12766. ORYZA SATIVA.** **Rice.**  
With a light husk.

**12767. ORYZA SATIVA.** **Rice.**  
With dark-brown husk.

**12768. CLERODENDRON sp.**

**12769. DELPHINIUM sp. Larkspur.**

From Holland, Mich. Received thru Mrs. H. Kremers, January 25, 1905.

**12770. CUCUMIS MELO. Muskmelon.**

From Augusta, Ga. Received thru Alexander Seed Company, January 21, 1905.  
*Nixon.*

**12771. CITRULLUS VULGARIS. Watermelon.**

From Philadelphia, Pa. Received thru Mr. William Henry Maule, January 21, 1905.  
*Harris's Earliest.*

**12772. MEDICAGO SATIVA. Alfalfa.**

From Dell, Oreg. Received thru Mr. M. D. Kelley, January 26, 1905.  
Grown from S. P. I. No. 9450.

**12773. CASTANEA CRENATA. Japanese chestnut.**

From New York City. Presented by Mr. F. W. Bruggerhof, president of the J. M. Thorburn Company, 36 Cortlandt street. Received January 25, 1904.

**12774. LINUM USITATISSIMUM. Flax.**

From Pskoff, Russia. Received thru Malcolm & Co., January 21, 1905.

**12775. PHASEOLUS RADIATUS. Mung bean.**

From Calhoun, S. C. Received thru Mr. C. C. Newman, January 27, 1905.  
*Newman.*

**12776. DODECATHEON MEADIA. Shooting-star.**

From Takoma Park, D. C. Received thru Mr. A. J. Pieters in the autumn of 1904.

**12777 to 12779.**

From Murtee Station, Wilcannia, New South Wales, Australia. Presented by Mr. E. W. Davis. Received January 28, 1905.

Seeds of native plants.

**12777. ATRIPLEX NUMMULARIA.** **Old-man saltbush.**

**12778. ATRIPLEX HOLOCARPA.** **Annual saltbush.**

**12779. TETRAGONIA EXPANSA.** **New Zealand spinach.**

**12780 and 12781.**

From Cape Town, South Africa. Presented by Prof. J. Burtt Davy, government agrostologist and botanist. Received January, 1905.

**12780 and 12781—Continued.****12780.** FICUS sp.

"From southern Rhodesia. Well worth cultivating; very large tree; suitable for southern California, Florida, and Louisiana." (*Davy.*)

**12781.** ACACIA sp.

"From southern Rhodesia. Well worth cultivation in southern California and southern Florida." (*Davy.*)

**12782 and 12783. PISTACIA VERA.****Pistache.**

From Bronte, Sicily. Collected by Mr. Thomas H. Kearney. Received January 30, 1905.

**12782.** Staminate cuttings.**12783.** Carpellate cuttings.**12784. MEDICAGO SATIVA.****Alfalfa.**

From Ogden, Utah. Received thru the C. A. Smurthwaite Produce Company, January 30 and March 9, 1905.

This seed was raised in Emery County, Utah, on land that is irrigated. The land has been cropt for forage for fifteen years, and in 1904 it was cropt for seed for the first time. This seed was taken from second growth.

**12785. PAPAVER RHOEAS.****Shirley poppy.**

From Santa Clara, Cal. Received thru C. C. Morse & Co., January 30, 1905.

*Santa Rosa*, a new variety originated by C. C. Morse & Co.

**12786 to 12789. SACCHARUM OFFICINARUM.****Sugar cane.**

From Trinidad, British West Indies. Received thru Mr. J. H. Hart, superintendent of the Botanical Gardens, January 29, 1905.

**12786.** T. 105.**12788.** T. 223.**12787.** T. 215.**12789.** T. 230.**12790 to 12800.**

From New South Wales, Australia. Received thru Mr. H. W. Potts, principal of the Hawkesbury Agricultural College, February 1, 1905.

A collection of seeds as follows:

**12790.** ACACIA BAILEYANA.**Cootamundra wattle.****12791.** ACACIA ELONGATA.**"Sally" wattle.**

Tall shrub or small tree.

**12792.** ACACIA LINEARIS.**Wattle.****12793.** ACACIA LUNATA.**"Golden Glory" wattle.**

A handsome shrub with dense masses of golden-yellow flowers rising 4 to 5 feet.

**12794.** ACACIA TRINERVATA.**Mountain wattle.****12795.** BOSSIAEA RHOMBIFOLIA.

A native, rigid, small shrub, the pods characteristically attacked by an *Aecidium*.

**12796.** CASUARINA SUBEROSA.

A tree pinelike in appearance, with leafless, jointed branches.

**12797.** DODONAEA VISCOSA.

A shrub rising to from 4 to 6 feet.

**12790 to 12800—Continued****12798. ELAEOCARPUS CYANEUS.**

A small tree.

**12799. ERAGROSTIS PILOSA.****Weeping love grass.****12800. KENNEDYA RUBICUNDA**

A scarlet-flowered creeper.

**12801. MEDICAGO SATIVA.****Alfalfa.**

From Mulock, Tex. Received thru Mr. J. M. Simmons, February 1, 1905.

**12802. ALNUS MARITIMA JAPONICA.****Alder.**

From New York, N. Y. Received thru Suzuki &amp; Iida, February 2, 1905.

"A deciduous tree growing in wet places, attaining a height of 20 to 30 feet. In spring it produces male and female flowers separately before it sprouts. The male flowers hang down from the branches in the form of a catkin, and the female flowers yield round fruits with scales. In the autumn when the fruits fully ripen, being about 1 inch in length, they are collected and dried for dyeing." (*Useful Plants of Japan*.)

"This plant is considered essential in the cultivation of the Japanese paper plant, mitsumata. It is used as a 'shelter' plant and is invariably planted on the plantation of the paper plant. It is doubtful if the effect accredited to this plant, viz, shade and shelter, is the real reason for its culture.

"It has been suggested by Mr. W. T. Swingle that since the genus *Alnus* has a root system bearing root nodules which store up nitrogen that this plant enriches the soil in which the paper plants are grown. This plant should be carefully studied relative to this particular point." (*Fairchild*.)

**12803. MEDICAGO SATIVA.****Alfalfa.**

From Setif, Algeria. Received thru Mr. G. Ryf, Setif, February 2, 1905.

*Citula*. "This variety of alfalfa is said by Mr. Ryf, who has devised a most ingenious method of cultivating alfalfa and wheat on the same land at the same time, to be more drought resistant than the ordinary French lucern, and it is believed that this variety may prove of special value in experiments in the arid regions of our Southwest." (*Fairchild*.)

**12804. JUNCUS EFFUSUS (?).****Matting rush.**

From Chico, Cal. Received thru Mr. P. H. Dorsett, Plant Introduction Garden, February 13 and 20, 1905.

"Plants of the California rush for experiments in the culture of the matting rush." (*Fairchild*.)

**12805. HUMULUS LUPULUS.****Hop.**

From Nuremberg, Germany. Received thru S. B. Bing Sons, hop merchants, September 30, 1904.

*Saaz City.***12806. HUMULUS LUPULUS.****Hop.**

From Puyallup, Wash. Received thru Mr. W. H. Lawrence, assistant at the Agricultural Experiment Station, November 14, 1904.

**12807. HUMULUS LUPULUS.****Hop.**

From Germany. Received November, 1904.

**12808. ORYZA SATIVA.****Rice.**

From Colombo, Ceylon. Presented by Dr. C. Driberg, superintendent of School Gardens. Received January 28, 1905.

Grown in the Hambantote district.

**12809. ANACARDIUM OCCIDENTALE.****Cashew nut.**

From Salisbury, Rhodesia, South Africa. Received thru Mr. George M. Odlum, Department of Agriculture, February 3, 1905.

From wild trees in Portuguese East Africa that seem to bear more freely than those cultivated in the West Indies and may prove hardier.

**12810 and 12811.**

From Portuguese East Africa. Presented by Hon. Stanley Hollis, United States consul, Lourenço Marquez, thru the Assistant Secretary of State. Received January 28, 1905.

**12810. (Undetermined.)****Matundulaku.**

Fruits of a sour "plum" sent to Mr. Hollis by Mr. A. E. Graham-Lawrence, of Barberton.

**12811. GARCINIA LIVINGSTONEI.****Pimbe.**

A Lourenço Marquez wild "plum."

**12812. (Undetermined.)**

From Hankow, China. Presented by Dr. L. S. Wilcox, United States consul-general. Received January 31, 1905.

**12813. BRASSICA OLERACEA.****Cabbage.**

From Norton, N. C. Received thru Mr. B. Norton, February 2, 1905.

*North Carolina Buncombe.*

**12814. ARACHIS HYPOGAEA.****Peanut.**

From Marseille, France. Received thru Hon. Robert P. Skinner, United States consul-general, February 3, 1905.

"A sample of 'Arachides' from the province of Sine in Senegal. These are the very best nuts known in this market for the manufacture of oil." (*Skinner.*)

**12815. PISTACIA VERA.****Pistache.**

From near Caltanisetta, Sicily. Received thru Mr. T. H. Kearney, February 4, 1905.

*Trabonella.*

**12816. MEDICAGO SATIVA.****Alfalfa.**

From Chinook, Mont. Received thru the Thomas O'Hanlon Company, February 6, 1905.

Grown by Mr. F. T. Reser, 1 mile west of Chinook.

**12817. PHASEOLUS VULGARIS.****Bean.**

From Leroy, N. Y. Received thru Mr. A. N. Jones, February 25, 1905.

*Golden Crown Wax.*

**12818. PHASEOLUS VULGARIS.****Bean.**

From Chaumont, N. Y. Received thru Roger Brothers, February 25, 1905.

*Golden Carmine-Podded Horticultural.*



**12819. LIPPIA REPENS.**

From Santa Barbara, Cal. Received thru Dr. F. Franceschi, February 10, 1905.

**12820. MEDICAGO SATIVA.****Alfalfa.**

From Clearwater, Nebr. Received thru Mr. G. E. Miller, February 7, 1905.

**12821. PSIDIUM MOLLE.****"Guayabillo."**

From Guadalajara, Mexico. Received thru Mr. Federico Chisolm, February 4, 1905.

**12822 to 12831. AMYGDALUS COMMUNIS.****Almond.**

From Girgenti, Sicily. Received thru Mr. T. H. Kearney, February 6, 1905.

Varieties of almond cuttings selected by Mr. Casà from his collection of 25 varieties.

**12822.** Sweet; big fruit.**12828.** Tender, sweet; good for table.**12823.** Sweet; long fruit.**12829.** Early flowering, sweet, hard-shelled.**12824.** Sweet; fruit dark red.**12825.** Sweet; fruit double.**12830.** Not frost resistant.**12826.** Bitter.**12831.** Late flowering; resistant to frost.**12827.** Sweet, with "a point at one side" (end).**12832 to 12842.**

From Catania, Sicily. Received thru Mr. T. H. Kearney, February 8, 1905.

**12832 to 12835.**

Received from Salvatore Leanza, nurseryman, Catania, Sicily.

**12832. ERIOBOTRYA JAPONICA.****Loquat.**

"A valuable and distinct, semiseedless grafted variety, which may be especially recommended. Fruit especially large, pear-shaped, with a fleshy, juicy, sugary pulp; with a few small seeds, which are in some cases extremely small according to the modification produced by their surroundings, whether in pots or in open ground with a ball of earth." (Kearney.)

**12833 and 12834. CORYLUS AVELLANA.****Filbert.***Castiglione.***12835. PISTACIA VERA.****Pistachc.***Bronte.***12836 to 12842. OPUNTIA spp.****Prickly pear.**

Presented by Doctor Cavara, of the Catania Botanical Gardens, Sicily.

**12836. OPUNTIA TOMENTOSA.**

A variety of opuntia that holds its fruit all winter. (Doctor Cavara's No. 5.)

**12837. OPUNTIA FICUS INDICA.**

"Fructu albo, vulgo 'Zuccherina.'" (Doctor Cavara's No. 2.)

**12838. OPUNTIA FICUS INDICA.**

"Fructu albo, vulgo 'Sipala.'" (Doctor Cavara's No. 1.)

**12839. OPUNTIA FICUS INDICA.**

"Fructu flavo, vulgo 'Figu d'India.'" (Doctor Cavara's No. 4.)

**12840. OPUNTIA FICUS INDICA.**

"Fructu rubro, vulgo 'Sanguigna.'" (Doctor Cavara's No. 3.)

**12832 to 12842—Continued.****12836 to 12842—Continued.****12841. OPUNTIA FICUS INDICA.**

"Fructu flavo-carne, compacta, vulgo 'Brontese.'" (Doctor Cavara's No. 7.)

**12842. OPUNTIA FICUS INDICA.**

"Fructu albo-venosa." (Doctor Cavara's No. 6.)

**12843 to 12845. CUCURBITA sp.****Squash.**

From Yokohama, Japan. Received thru the Yokohama Nursery Company, February 7, 1905.

**12843.** *Kikugata* (early).

**12845.** *Kikuza* (late).

**12844.** *Chilimen* (early).

**12846 to 12848.**

From Tunis. Received thru Mr. T. H. Kearney, December 28, 1904.

**12846. MEDICAGO SATIVA.****Alfalfa.**

*Oasis.* From Kebili.

**12847. MEDICAGO SATIVA.****Alfalfa.**

*Tripoli.* From Gabes.

**12848. PISTACIA VERA.****Pistache.**

From Sfax. Nuts from the 1904 crop.

**12849. CANNABIS SATIVA.****Hemp.**

From Nicholasville, Ky. Received thru W. L. Steel & Co., February, 1904.

**12850. FELJOA SELLOWIANA.**

From Sao Paulo, Brazil. Presented by Mr. Alberto Löfgren, Botanic Gardens. Received March 11, 1905.

"A plant belonging to the guava family. Plants of this new fruit have been grown by Mr. Taft and Doctor Franceschi in southern California, and small immature fruits have been borne by single plants grown by these parties. The plant has been successfully cultivated on the Riviera, where there are several specimens of considerable size which have borne excellent fruit. Doctor André, who has paid special attention to this fruit, pronounces it, in flavor, something exceptionally delicious. The fruits are about the size of a large English walnut, green in color and covered with blunt protuberances. Little is known at the present time in this country regarding the actual flavor of the fruit. The fruit is of a character which enables it to be plucked from the bush before ripening. It is believed that this plant can be grown successfully in all the frostless regions of the Southwest. It is well worthy of serious consideration by all those interested especially in subtropical fruit culture." (*Fairchild.*)

**12851. PENNISETUM TYPHOIDEUM.****Pearl or cat-tail millet.**

From Augusta, Ga. Received thru the N. L. Willet Drug Company, March 13, 1905.

**12852. ORYZA SATIVA.****Rice.**

From Augusta, Ga. Received thru the N. L. Willet Drug Company, March 13, 1905.

**12853. TRITICUM DICOCCUM.****Emmer.**

From Lawrence, Kans. Received thru F. Barteldes & Co., February 22, 1905.

**12854. HORDEUM VULGARE.****Barley.**

From Geneva, Idaho. Received thru Mr. F. W. Boehme, March 15, 1905.

**12855. SECALE CEREALE.****Rye.**

From Geneva, Idaho. Received thru Mr. F. W. Boehme, March 15, 1905.

**12856 to 12861.**

From Vomero, Naples. Presented by Dr. Carl Sprenger thru Mr. E. A. Bessey. Received January, 1905.

**12856. RICINUS ZANZIBARIENSIS.****Castor-oil plant.**

Package of mixed varieties.

**12857. SESBANIA TRIPETH.****Red acacia.**

"One of the finest flowering shrubs."

**12858. RHAMNUS ALATERNUS CALABRICA.****12859. MORUS ALBA.****White mulberry.***China.***12860. SIDERITIS MASSONIANA.****12861. PICRAMMA AILANTHOIDES.****12862 to 12864.**

From Paris, France. Received thru Vilmorin-Andrieux &amp; Co., February 10, 1905.

**12862. CYNARA SCOLYMUS.****Artichoke.**Large flat *Brittany*.**12863. CUCUMIS SATIVUS.****Cucumber.****12864. SANVITALIA PROCUMBENS FLORE PLENO.****12865 to 12871. ORYZA SATIVA.****Rice.**

From Calcutta, India. Presented by I. H. Burkill, esq., M. A., officiating reporter on economic products to the government of India, Indian Museum, 1 Sudder street. Received February 9, 1905.

**12865. Masina ghaiya.** From Bengal Province.**12866. Bhadaï ghaiya, red.** From Bengal Province.**12867. Thosar Bhadaï ghaiya, white.** From Bengal Province.**12868. Pakhasali Bhadaï.** From Bengal Province.**12869. Augua Bhadaï.** From Bengal Province.**12870. Small red variety.** From Bengal Province.**12871. Takmaroo ghaiya.** From Bengal Province.

This paddy was grown by the Lepchas and Bhootias.

**12872. CHRYSANTHEMUM ANETHIFOLIUM.****Chrysanthemum.**

From Merrifield, N. Dak. Presented by Mrs. H. E. Bancroft. Received February, 1905.

Mrs. Bancroft writes that this is a perennial there, but blossoms early the first year from seed. The largest blossoms are the early ones, being three times as large as those sent, which were gathered on November 13, 1904.

**12873. ESCHSCHOLTZIA CALIFORNICA.****California poppy.**

From Merrifield, N. Dak. Presented by Mrs. H. E. Bancroft. Received February, 1905.

Mrs. Bancroft writes that by constant selection she has developed a strain of California poppy with flowers much larger than the ordinary, which continue in bloom much later than the common kind.

**12874 to 12876. ORYZA SATIVA.****Rice.**

From Canton, China. Presented by Mr. T. E. Griffith. Received January 28, 1905.

Samples of Chinese rice, as follows:

12874. "*Shie-Miu*." (No. 1.)

12876. "*Laer-Chap*." (No. 3.)

12875. "*Ai-Miu*." (No. 2.)

"As to the local manner of planting this rice, a seed bed some 30 yards square is prepared alongside of the large rice fields about the month of August. This seed bed is composed of softish mud, and the grain is scattered over the surface, which is kept wet enough to cause it to sprout. In about three weeks' time the mass of seedlings are about 10 inches in height, when they are taken up and planted out in the rice fields in bunches of 20 or so seedlings together, at intervals of a foot between bunches.

"The soil of the fields is a bluish alluvial mud, and, after planting, it is kept constantly inundated with water from the numerous creeks which intersect the country. In about one hundred days from planting out the grain is ripe, and is then gathered in." (*Griffith*.)

**12877 to 12895.**

From New Zealand. Presented by the government of New Zealand thru Mr. M. A. Carleton. Received February 11, 1905.

A collection of grains, etc., from the New Zealand exhibit at the Louisiana Purchase Exposition, St. Louis, Mo., 1904.

12877 to 12882. AVENA SATIVA.

**Oat.**

12877. *Danish*.

12880. *Canadian*.

12878. *Dun*.

12881. *White Tartar*.

12879. *Sparrowbill*.

12882. *Black Tartar*.

12883 to 12886. TRITICUM VULGARE.

**Wheat.**

12883. *Pearl*.

12885. *Hunter's*.

12884. (No label.)

12886. *Tuscan*.

12887 to 12889. PISUM SATIVUM.

**Pea.**

12887. *Brown*. (Marked "B.")

12889. *Green*.

12888. *Green*. (Marked "C.")

12890. TRIFOLIUM REPENS.

**White clover.**

12891. TRIFOLIUM PRATENSE.

**Red clover.**

*Colonial*.

12892. LOLIUM ITALICUM.

**Italian rye-grass.**

12893. LOLIUM PERENNE.

**Perennial rye-grass.**

12894. PHELUM PRATENSE.

**Timothy.**

*Colonial*.

12895. DACTYLIS GLOMERATA.

**Orchard grass.****12896. LILIUM NEILGHERRENSE.****Neilgherry lily.**

From Utakamund, India. Received thru Mr. G. H. Cave, superintendent of the Government Botanic Gardens, February 14, 1904.

**12897 to 12899.**

From Durban, Natal. Presented by Mr. J. Medley Wood, director of the Botanic Gardens. Received February 14, 1905.

12897. COFFEA ZANGUEBARIÆ (?).

**Coffee.**

"According to a letter of January 12, 1905, from Mr. Wood, this species of *Coffea*, regarding the identification of which he is doubtful, is quite immune

**12897 to 12899—Continued.**

to attacks of the *Hemileia vastatrix*. It is grown in the Botanic Gardens within a few feet of *Coffea* plants covered with this fungus, and Mr. Wood has endeavored to inoculate the plant with it but has been unsuccessful. He further states that it is a handsome shrub, in addition to its value for hybridizing purposes for *Coffea arabica* or other species. His idea is, further, that it might be used as a stock upon which to graft the Arabian *Coffea*." (*Fairchild*.)

**12898. ASPARAGUS VIRGATUS.**

"According to Mr. Wood this species is cultivated in Natal and is considered to have a distinct flavor of its own and to be a desirable vegetable. This same species has been in cultivation in America for some time as an ornamental." (*Fairchild*.)

**12899. PASSIFLORA EDULIS.**

"In Natal one of the commonest fruits on the market is this passion fruit. Its cultivation requires very little attention and it seems to be a very productive vine. This could be cultivated to advantage in the frostless regions of California and Florida, and attempts should be made to cross it with the Maypop, which is a common species of *Passiflora* growing in the Carolinas. In New Zealand and Australia the fruit has become a popular one on the market." (*Fairchild*.)

**12900 to 12908.**

From Washington, D. C. Grown on the Potomac Flats under the direction of Dr. R. H. True, Physiologist in Charge of Drug and Medicinal Plant Investigations. Received February 5, 1905.

A collection of drug and medicinal plant seeds, as follows:

12900. <i>ATROPA BELLADONNA</i> .	Belladonna.
12901. <i>CARUM CARVI</i> .	Caraway.
12902. <i>CONIUM MACULATUM</i> .	Poison hemlock.
12903. <i>CORIANDRUM SATIVUM</i> .	Coriander.
12904. <i>LOBELIA INFLATA</i> .	Lobelia.
12905. <i>SATUREJA HORTENSIS</i> .	Summer savory.
12906. <i>PAPAVR SOMNIFERUM</i> .	Poppy.
A white-seeded opium poppy.	
12907. <i>PAPAVR SOMNIFERUM</i> .	Poppy.
A blue-seeded opium poppy.	
12908. <i>CHENOPIDIUM ANTHELMINTICUM</i> .	American wormseed.

**12909. SECHIU EDULE. Chayote.**

From New Orleans, La. Received thru the J. Steckler Seed Company, February 11, 1905.

**12910. OLEA EUROPEA. Olive.**

From Tunis, North Africa. Received thru Mr. T. H. Kearney, February 13, 1905.

*Chitoni*. "This is the principal and best oil variety of northern Tunis, but is said not to do so well in drier and hotter parts." (*Kearney*.)

**12911 to 12917.**

From Brookings, S. Dak. Received thru Prof. N. E. Hansen, Agricultural Experiment Station, January 18, 1905.

A collection of ornamentals, as follows:

12911. (Undetermined.)	"Siberian sand thorn."
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**12911 to 12917—Continued.****12912.** CARAGANA MICROPHYLLA.**12913.** CARAGANA ARBORESCENS.**Siberian pea tree.****12914.** SALIX sp.**Niobe weeping willow.****12915.** ROSA RUGOSA.**Pasture rose.****12916.** SALIX sp.**Ural willow.****12917.** SALIX VIMINALIS REGALIS.**12918. BETA VULGARIS.****Sugar beet.**

From Fort Collins, Colo. Received thru the Colorado Experiment Station,  
February 14, 1905.

*Kleinwanzleben.***12919. RAPHANUS SATIVUS.****Radish.**

From Fairfield, Wash. Received thru Mr. E. H. Morrison, February 13, 1905.  
*Crimson Giant Forcing.* Grown from S. P. I. No. 9487.

**12920. NICOTIANA TABACUM.****Tobacco.**

From Washingtonboro, Lancaster County, Pa. Received thru Mr. Frank C.  
Wittmer, February 14, 1905.

**12921 to 12926.**

From Sfax, Tunis, North Africa. Received thru Mr. T. H. Kearney, February  
17, 1905.

**12921.** OLEA EUROPAEA.**Olive.**

"The *Chemlali* variety, being probably the best adapted of all olives to a  
dry, hot climate, will be useful as a stock even if it does not succeed with us as  
an oil variety." (*Kearney.*)

**12922.** PISTACIA VERA.**Pistache.**

White-skinned variety.

**12923.** PISTACIA VERA.**Pistache.**

Red-skinned variety.

**12924.** PISTACIA VERA.**Pistache.**

Male.

"Through the kindness of Mr. Leonardi, British vice-consul, I was able to  
visit a garden here (Sfax) belonging to two Italian Jews, where there are 16  
pistache trees (one male). The gardeners told me there are three kinds of  
pistaches here, all with green kernels, but one having a white, one a red, and  
one a red-and-white streaked skin. The first is considered the best, and from  
a tree of this kind, said to bear very heavily, was taken most of the grafting  
wood (12922). Grafting can be done successfully here up to the end of  
February." (*Kearney.*)

**12925.** PUNICA GRANATUM.**Pomegranate.**

"Pomegranate cuttings taken from a single bush, said to be a very fine,  
large, red-fruited one. Here it is propagated by cutting off the vigorous root  
shoots where they are about a half inch thick and sticking them into the  
ground so that the main stem is horizontal and is covered with earth, while  
the stiff, divergent branches stick up vertically. In this way a good-sized  
bush, bearing well, is obtained in two years." (*Kearney.*)

**12926.** (Undetermined.)

**12927 to 12929. TRIFOLIUM sp.****Clover.**

From Corfu, Greece. Received thru Mr. C. S. Scofield in 1901. Seeds gathered on the place of Mr. Antonio Colla.

12927. *TRIFOLIUM MARITIMUM.*12929. *TRIFOLIUM PROCUMBENS.*12928. *TRIFOLIUM POLYSTACHYUM.***12930 and 12931. MANGIFERA INDICA.****Mango.**

From Honolulu, Hawaii. Presented by Mr. G. P. Wilder. Received February 20 and 21, 1905.

12930. *Russet.*

12931. (Not named.)

**12932. CARUM GAIRDNERI (?).**

From Winslow, Wash. Received thru Mr. John L. Hubbard, March 6, 1905.

"This plant grows thruout eastern Washington, Oregon, and Idaho, and is called by the Indians on the Umatilla Reservation, in eastern Oregon, *Sow-ilk*. This plant is similar in foliage to the carrot, is a hardy perennial with a root similar to the sweet potato, and is very pleasant to the taste, either raw or cooked. When it is raw the meat is about the consistency of a raw potato, of a sweet taste; when cooked it becomes mealy, like a baked sweet potato. It was used extensively as a food staple by the Indians thruout the Northwest before the advent of the white people, and is used by them to some extent yet.

"That the plant is susceptible of material development is proven by its being found to grow much larger in plowed fields or cultivated soil, where the roots have not been destroyed by such cultivation. I believe that if your Department would give this matter your attention a new and valuable vegetable would be added to the food products of the country." (*Letter dated January 30, 1905, from Mr. Hubbard.*)

Mr. E. V. Coville, botanist, in a letter dated March 16, 1905, gives the following information: "The plant is widely used for food among the northwestern Indians. The late Major Bendire, of the United States Army, considered it one of the most delicious vegetables he had ever tasted. I shall be very glad, indeed, to see Mr. Oliver take up its culture with a view to its domestication. It would be a vegetable somewhat of the type of the sweet potato. You will be interested to know that, by reason of the summer drought prevalent in the regions where the plant grows, the growing period of the species is short, a fact which will be very advantageous in connection with its proposed domestication."

**12933 to 12937. PERSEA GRATISSIMA.****Avocado.**

From Miami, Fla. Propagated by Prof. P. H. Rolfs, pathologist in charge of Subtropical Laboratory. Numbered February 21, 1905.

12933.

*Baldwin.* "Tree a vigorous grower, with strong central stem; branches rather rigid; light bloomer, but heavy cropper. Blooms in February and March. Fruit at best in August; drops in September. Ripens uniformly. Shape of fruit approaching oblong, 4 by 5½ inches, not regular; color green, with a few yellowish streaks; rind smooth, thin; stem small; meat deep cream, one-fourth green, firm; flavor excellent. Seeds are rather large, firm in cavity. Buds do not take readily. Named for Mr. Baldwin, of Miami, Fla., who owns the original tree." (*Rolfs.*)

12934.

*Chappelow.* "Tree grows vigorously; branches diffuse, slender, inclined to droop; bark of young branches shiny, greenish yellow. Good cropper and abundant bloomer. Blooms in January and February; fruit ripens in June and July.

"Shape of fruit, bottle-necked, 2½ by 4½ inches; color dull purple; skin thin, leathery; meat greenish near rind, whitish toward seed; seed medium; firm in cavity; edible qualities good, but different from other type. The buds take readily and the tree stands more cold than other varieties planted. Most useful for home consumption. Named for Mr. William Chappelow, Monrovia, Cal. Buds secured thru Mr. William A. Taylor." (*Rolfs.*)

**12933 to 12937—Continued.****12935.**

*Family.* "A strong growing tree of spreading habits, being an abundant bloomer and moderate cropper. Blooms in late February and during March. Ripens fruit during July, August, September, and into October.

"Shape of fruit variable, from pear-shaped to long oblong, nearly banana-shaped; size, variable from 6 by  $3\frac{1}{2}$  to  $3\frac{1}{2}$  by  $1\frac{1}{2}$  inches; color purple, with scarlet streaks, very attractive; skin medium thick, smooth; stem large; meat yellow, free from fiber; flavor good, seed small, loose in cavity.

"The principal merit of this variety lies in extending its period of ripening over so long a time, being distinctly useful for family purposes, but should not be planted for commercial purposes, as the extended ripening period necessitates several pickings. Buds take readily." (*Rolf.s.*)

**12936.**

*Pollock.* "Tree moderate grower, heavy bearer, profuse bloom, limbs rigid; blooms in February and March; ripens in September and October. Upright grower with strong central stem.

"Fruit pear-shaped, being about  $6\frac{1}{2}$  by  $4\frac{1}{2}$  inches; weight up to  $3\frac{1}{2}$  pounds; color greenish; rind medium; meat yellowish; flavor good; seed medium. Buds take readily, and this variety is desirable on account of very large fruits. Named for Mr. Pollock, of Miami, Fla., who owns the original tree." (*Rolf.s.*)

**12937.**

*Trapp.* "Tree upright grower with strong central stem; not a vigorous grower. Produces abundant bloom late in February and March. A heavy cropper, maturing in October and November, some of the fruits remaining on the trees until the Christmas holidays.

"Shape of fruit rather between round and oblong, about  $4\frac{1}{2}$  by  $3\frac{1}{2}$  inches, regular; color greenish with yellowish streaks; thin rind; small stem; meat rather deep yellow; seed variable, sometimes very large and firm in cavity, and again very small and loose in cavity.

"The special merit of this variety lies in the fact that the fruit remains on the tree until late in the season. Named for Mrs. Trapp, Cocanut Grove, Fla., who owns the original tree." (*Rolf.s.*)

**12938. GOSSYPIUM sp.****Cotton.**

From Peru, South America. Received thru W. R. Grace & Co., 1 and 2 Hanover square, New York, N. Y., February 13, 1905.

"Full rough" *Catacaos* seed. Represents the seed of the full rough Peruvian cotton, which is grown in the Piura and the surrounding districts in the northern part of Peru.

This "Full rough" cotton is exported to New York and Liverpool markets. There are two crops every year: "San Juan" and "Navidad." The former is largest and is gathered in August to September, while the latter is ready for shipment from the end of January thru April. We would say that the average annual crop was 18,000 bales of 200 pounds.

Many experiments have been made to plant this seed and grow the same grade of cotton in other localities but without success, because soil similar to that of the Piura districts (where it seldom rains) is yet to be found. Every attempt to transplant this grade to any other place in Peru was either a complete failure or the cotton degenerated into "Moderate rough."

**12939. ZEA MAYS.****Corn.**

From Montgomery, Ala. Received thru Charles & Nelson, No. 8 Commerce street, February 11, 1905.

*Mexican June.*

**12940 to 12957. VITIS spp.****Grape.**

From Thomery, France. Received thru Etienne Salomon & Sons, February 24, 1905.

**12940.** *Alicante Bouschet* × *Riparia* 141-A.

**12941.** *Berlandieri* × *Riparia* 157-11.

**12940 to 12957**—Continued.

- |  |  |
|--|--|
| 12942. <i>Berlandieri</i> × <i>Riparia</i><br>420-B.                             | 12950. <i>Riparia</i> × <i>Cordifolia</i> -<br><i>Rupestris</i> 106-8. |
| 12943. <i>Berlandieri</i> Lafont No. 9.  | 12951. <i>Rupestris</i> × <i>Berlandieri</i><br>301-37-152.            |
| 12944. <i>Bourisquou</i> × <i>Rupestris</i><br>3907.                             | 12952. <i>Riparia</i> Colorado.  |
| 12945. <i>Carignane</i> × <i>Rupestris</i><br>503.                               | 12953. <i>Solonis</i> × <i>Riparia</i> 1615.                           |
| 12946. <i>Riparia</i> × <i>Rupestris</i> - <i>Ara-</i><br><i>mon-Jaeger</i> 201. | 12954. <i>Vialla</i> .   |
| 12947. <i>Riparia</i> Ramon.   | 12955. <i>Aramon</i> × <i>Riparia</i><br>143-A.                        |
| 12948. <i>Rupestris</i> Mission.   | 12956. <i>Cnerea-Rupestris</i> × <i>Ri-</i><br><i>paria</i> 239.       |
| 12949. <i>Riparia</i> Grand Glabre ×<br><i>Aramon-Rupestris</i> 4110.            | 12957. <i>Riparia</i> × <i>Rupestris</i> 108-<br>103.                  |

**12958. IPOMOEA sp.**

From Cuba. Received thru Prof. P. H. Rolfs, Subtropical Laboratory, Miami, Fla., February 23, 1905.

Seeds of a variety of *Ipomoea* that is found in Cuba. Said to have yellow flowers.

**12959. (Undetermined.)****Matundulaku.**

From Eureka City, Transvaal. Presented by A. T. Metcalf, esq., thru Hon. W. Stanley Hollis, United States consul, Lourenço Marquez, Portuguese East Africa. Received February 23, 1905.

"Evidently a plum-like fruit with a very large stone and little meat." (*Fairchild.*)

**12960. GARCINIA LIVINGSTONEL.****Pimbe.**

From Lourenço Marquez, Portuguese East Africa. Presented by Hon. W. Stanley Hollis, United States consul. Received February 23, 1905.

**12961. HYDRANGEA SCANDENS.**

From Philadelphia, Pa. Received thru Thomas Meehan & Sons, February 23, 1905.

**12962. (Undetermined.)**

From Lourenço Marquez, Portuguese East Africa. Presented by Hon. W. Stanley Hollis, United States consul. Received February 23, 1905.

A Lourenço Marquez fruit tree.

**12963 to 12970.**

From Philadelphia, Pa. Received thru W. A. Burpee & Co., February 17, 1905. Flower seeds for stock purposes.

**12971 to 12987.**

From New York, N. Y. Received thru J. M. Thorburn & Co., February 17, 1905. Flower seeds for stock purposes.

**12988. ANTIRRHINUM MAJUS.****Snapdragon.**

From Fairfield, Wash. Received thru Mr. E. H. Morrison, January 3, 1905.

**12989. COSMOS BIPINNATUS.****Cosmos.**

From Santa Clara, Cal. Received thru C. C. Morse & Co., January 10, 1905.

**12990. KOCHIA SCOPARIA.**

From Detroit, Mich. Received thru Mr. William McRobbie, gardener of the Palmer Park Gardens, November 7, 1904.

**12991. MEDICAGO SATIVA.****Alfalfa.**

From Excelsior, Minn. Received thru Mr. A. B. Lyman, February 24, 1905.

*Grimm.* A variety attracting attention in the Northwest. (See Bulletin (press), No. 20, University Exp. Sta., St. Anthony Park, Minn., March, 1904, on Hardy Alfalfa in Minnesota.)

**12992. MEDICAGO SATIVA.****Alfalfa.**

From Bassorah, Arabia. Secured thru H. P. Chalk, esq., American consular agent. Received February 27, 1905.

"From preliminary tests of this alfalfa, made from a previous importation, under S. P. I. No. 8806, it seems probable that this particular strain will make a more rapid growth than the ordinary varieties cultivated in this country and may prove especially valuable for certain regions in southern California and Arizona. These preliminary experiments have been carried on at the Pomona substation in California, where this variety, together with the ordinary and the Turkestan varieties, planted side by side at the same time, exhibited most unusual rapidity of growth." (*Fairchild.*)

**12993. HORDEUM DISTICHUM NUTANS.****Two-row barley.**

From Minneiska, Minn. Received thru Mr. H. L. Whitman, February 23, 1905.

*Hanna.*

**12994. ANEMONE ALPINA SULPHUREA.**

From Carsethorn, Dumfries, Scotland. Presented by Mr. Samuel Arnott. Received February 25, 1905.

**12995 and 12996. PINGUICULA spp.**

From Mexico. Presented by Dr. J. N. Rose. Received February 15, 1905.

**12995.** PINGUICULA sp.

**12996.** PINGUICULA CAUDATA.

**12997. SPREKELIA FORMOSISSIMA.**

From Mexico. Presented by Dr. J. N. Rose. Received February 15, 1905.

"This is an old garden favorite, but is especially interesting, as it comes from the high mountains of central Mexico. The home of this species is usually given as South America or Guatemala. Only one species of Sprekelia is recognized by J. G. Baker and other writers on this group, but there are certainly two, if not more, very distinct species. This plant has flowered in Washington several times. The flowers are large, nearly 4 inches long, and deep crimson. It differs only slightly from descriptions. The bulb scales are black, not brown, as usually given. Bulbs were collected in a shallow mountain swamp of central Mexico in 1903 (No. 813)." (*Rose.*)

**12998 and 12999. PUNICA GRANATUM.****Pomegranate.**

From Degach (El Oudiane), Tunis. Received thru Mr. T. H. Kearney, March 7, 1905.

**12998.** *Gabsi.*

A variety having large, pale-red fruit. "The Gabsi is very likely the same 'variety from Gabes,' of which I sent cuttings (S. P. I. No. 12566) in December from Susa." (*Kearney.*)

**12999.** *Tunisi.*

"A variety smaller than the preceding and having deep-red fruit. Both varieties were obtained at Degach (El Oudiane), the oasis of the Jerid most renowned for its pomegranates, oranges, and olives, while Tozer is celebrated for its figs. These are the two most widely grown kinds here (Tozer). The pomegranates of Gafsa are even more celebrated." (*Kearney.*)



**13000. BRASSICA OLERACEA BOTRYTIS.****Cauliflower.**

From Copenhagen, Denmark. Received thru Mr. A. Hansen, seedsman, February 27, 1905.

*Dwarf Erfurt.*

**13001. LYCOPERSICON ESCULENTUM.****Tomato.**

From Danville, Ky. Received from Mrs. W. B. Thomas, thru Mr. H. Giovannoli, of the United States Treasury Department, March 1, 1905.

Sample of tomato seed grown from seed distributed by the Department of Agriculture in 1891.

**13002 to 13006. CITRUS hyb.**

From Glen St. Mary, Fla. Propagated by Mr. G. L. Taber, for distribution by the Office of Seed and Plant Introduction and Distribution. Received December 16, 1904.

Hybrid citrus fruits developed by Dr. H. J. Webber, in charge of the Department Plant Breeding Laboratory. Of these hybrids two are called hardy and two are tender. None are true oranges except the two tangerines, *Weshart* and *Trimble*. The hardy varieties constitute a new group designated by Doctor Webber as citranges. They are the *Rusk* and the *Willits*.

The fifth of the lot is a representative of a new group called the "tangelo," being a hybrid between the tangerine and the pomelo. The variety has been called the *Sampson*.

Doctor Webber describes the varieties as follows:

**13002.**

The *Rusk* citrange (P. B. No. 716) is a hybrid between the common sweet orange (female parent) and the trifoliate orange (male parent). The tree resembles that of the trifoliate orange in character, having trifoliate leaves which are much larger than those of the ordinary trifoliate. It is very productive and bears a small fruit about 2 to 2½ inches in diameter, which is somewhat similar to the tangerine. The fruit is nearly seedless, having only one seed to two fruits, and is very juicy, yielding a much larger quantity of juice than the best lemons of the same size. It makes a very pleasant citrangeade, and can be used for making pies, marmalades, jellies, and for other culinary purposes. Eaten with sugar, it is a very desirable breakfast fruit.

**13003.**

The *Willits* citrange (P. B. No. 777) is a hybrid between the trifoliate orange (female parent) and the common sweet orange (male parent), being thus the reciprocal hybrid of the *Rusk* citrange. The tree, as in the case of the *Rusk*, is similar to the trifoliate, but with much larger leaves, and it is semi-evergreen. The fruit is nearly seedless, having an average of only one seed to about four fruits. The fruit is slightly larger than the *Rusk*, the largest being about 2½ inches in diameter. The pulp is of a different color from the *Rusk*, being a lemon yellow. The flavor is also much more acid. The fruit is valuable for making citrangeade, pies, marmalades, jellies, and for other culinary purposes. It is too acid to be eaten out of hand.

**13004.**

This is one of our new hybrid citrus fruits, produced by crossing the tangerine and pomelo. The fruit differs from either parent, but combines the qualities of both. Differing from any other type of citrus fruit, it has been referred to a new group termed the "tangelo" group, and this particular variety has been designated the *Sampson*. The "Sampson tangelo" (P. B. No. 1316) forms a tree resembling in all essential characters the ordinary orange, and is as easily injured by cold. The fruit is about the size of the navel orange but of lighter color, being intermediate in size and color between the tangerine and pomelo. The flavor is sprightly acid, like the grapefruit, but with a slight suggestion of the bitter of that fruit. A striking and highly desirable characteristic is its easily removable rind, derived from the tangerine parent, so that it might be called a "kid-glove" pomelo. It is a tender tree and adapted to distribution in the present citrus-growing regions of Florida and California.

**13002 to 13006—Continued.****13005 and 13006.** *New tangerine oranges.*

No. 13005 (P. B. No. 628) has been named the *Weshart*, and No. 13006 (P. B. No. 627) has been named the *Trimble*.

A large number of hybrids have been made in the course of the investigations between the tangerine and various varieties of the sweet orange, with the object of producing an orange having the quality and character of the sweet orange with the loose, easily removable rind of the tangerine. Among the different hybrids which have thus far fruited, two have produced fruits which in all respects resemble true tangerines but are two weeks earlier than the earliest tangerines, and are larger, richer in color, and of rather superior quality.

**13007 to 13026.**

From Philadelphia, Pa. Received thru Henry A. Dreer (Incorporated), February 28, 1905.

A collection of flower seeds to be grown for stock.

**13027 to 13034. SOLANUM TUBEROSUM.****Potato.**

From Auchtermuchty, Scotland. Received thru Prof. L. R. Jones, of the Vermont Experiment Station, March 3, 1905.

A collection of European potatoes for breeding purposes, as follows:

**13027.**

*British Queen.* (L. R. Jones's No. 43.) Originated by Findlay. Second early; white skin and flesh; kidney; quality reputed excellent and yield good. "Best second early in cultivation in England to-day," according to one high authority. Mr. Findlay claims that it is highly disease resisting, but others do not so consider it. Especially commended for trial in Florida, etc.

**13028.**

*Royal Kidney.* (L. R. Jones's No. 44.) Originated by Findlay, 1901. Late second early; white; quality excellent; yield good. Mr. Findlay claims this to be one of the hardest disease-resisting varieties he has sent out. Commended for trial both in the North and South, as well as in Colorado.

**13029.**

*Empire Kidney.* (L. R. Jones's No. 45.) One of Findlay's recent varieties, and especially recommended by him as disease resisting and worthy of trial. Heavy yielder; good quality; said to be best on fertile loam. Selected especially for trial in the North and West, rather than in the South.

**13030.**

*Evergood.* (L. R. Jones's No. 46.) Originated and sent out by Findlay, about 1899. Medium late; white; oval; high quality; heavy cropper. Characterized by prolonged autumnal growth if the season favors. Commended by Mr. Findlay and others as disease resisting. Selected especially for trial in the North and West.

**13031.**

*Goodfellow.* (L. R. Jones's No. 47.) Originated by Mr. Findlay. Medium late; white skin and flesh; round; quality fine; yield good. Characterized by Mr. Findlay and others as disease resisting. Selected especially for trial in the North and West.

**13032.**

*Up-to-Date.* (L. R. Jones's No. 48.) One of Findlay's varieties sent out many years ago and now one of the standard main crop varieties of England. Commended as still in a fair degree disease resisting, altho past its prime in this respect. Medium late; white; excellent quality; strong yielder. Commended especially for trial in the North and West.

**13027 to 13034—Continued.****13033.**

*Northern Star.* (L. R. Jones's No. 49.) Medium late; white; round; quality and yield reputed excellent. One of Mr. Findlay's most promising recent introductions (first sent out in 1902). He says "the most disease-resisting potato I have ever known." Some others who have tried it are less optimistic as to this. Commended especially for trial in the North and West.

**13034.**

*Eldorado.* (L. R. Jones's No. 50.) Findlay's introduction (1903), and the most advertised potato in England to-day. Sold last year at rate of £200 sterling per pound weight. Medium late; white; elongated oval. Reputed of high quality and yield. Commended most highly by Mr. Findlay as disease resisting, but some others who have watched it are less hopeful of any remarkable characteristics in this direction.

**13035 to 13076. ORYZA SATIVA.****Rice.**

From Formosa. Presented by the Agricultural Department of the Formosan Government, thru Mr. Fred. Fisher, United States consul at Tamsui, Formosa. Received March 2, 1905.

The first 20 numbers of this collection are "first crop" and the remainder are "second-crop" samples.

**13035. *Chieng Yu.***

From Kirai Sho, Kokansho Seichuri, Ako Prefecture. Clayish soil.

**13036. *Pei Cham.***

From Shinsho Shisho, Daichikuri, Hozan Prefecture. Sandy clay soil.

**13037. *Chieng Yu.***

From Saikosho, Koryngairi, Hozan Prefecture. Sandy clay soil.

**13038. *O Kaku.***

From Ryosan jusho, Rankoho, Taichu Prefecture. Sandy soil.

**13039. *Tso Toa Hoe.***

From Sankaitsusho, Enmukabo, Shoka Prefecture. Sandy soil.

**13040. *O Kaku.***

From Eibansho Kochokuho, Taihoku Prefecture. Clayish soil.

**13041. *Kuai Kau Otowa.***

From Gynhoshos, Chikuhoku Itsupo, Shinchiku Prefecture. Sandy soil.

**13042. *Pei Bei Fan.***

From Dorawan Sho, Bioritsu Prefecture. Sandy soil.

**13043. *Sam Sai.***

From Shinsho, Hokutoho, Nanto Prefecture. Sandy soil.

**13044. *O Cham Ko.***

From Tosei Kosho, Dabyo Nanho, Kagi Prefecture. Sandy soil.

**13045. *Pa Tei Don.***

From Chuhosho Kagi Toho, Kagi Prefecture. Clayish soil.

**13046. *Nun Key.***

From Chinshi, Manrikisho, Enzanho, Gilan Prefecture. Sandy soil.

**13047. *An Ka Tsu.***

From Saikosho, Koryugairi, Hozan Prefecture. Sandy clay.

**13048. *Pei Gya Nun.***

From Ryo Sanjusho, Rankoho, Taichu Prefecture. Sandy soil.

**13035 to 13076**—Continued.**13049.** *Check Shey.*

From Kokasho Shiran Sampo, Taihoku Prefecture. Lavitic mixt with clayish soil.

**13050.** *Jippon Tsu.*

From Gynhoshu, Chikuhō, Itsupō, Shinchiku Prefecture. Sandy soil.

**13051.** *Ban Hoe.*

From Lanrisho, Bioritsu Niho, Bioritsu Prefecture. Sandy soil.

**13052.** *Pei.*

From Horishagai, Horishaho, Nanto Prefecture. Clayish soil.

**13053.** *Ran Hoe Tsu.*

From Shanshi Kyakusho, Dabyo Nanho, Kagi Prefecture. Sand and loam.

**13054.** *Ban Hoe.*

From Iketsusho, Shiiho, Gilan Prefecture. Clayish soil.

**13055.** *Tsu Pian.*

From Kaihoshō, Seichuri, Akoku, Ako Prefecture. Sandy soil.

**13056.** *Pa Chiam.*

From Shintosen Sho, Seikari, Hozan Tsuku, Hozan Prefecture. Sandy soil.

**13057.** *O Kaku.*

From Gokoshō, Daichikuri, Hozan Prefecture. Sandy clay.

**13058.** *Pei Kaku.*

From Hyoshitoyō Daimokukori, Tainan Prefecture. Sandy soil.

**13059.** *Go Ki Tsoa.*

From Horishagai, Horishoho, Nanto Prefecture. Clayish soil.

**13060.** *O Kaku.*

From Nantogai, Nantoho, Nanto Prefecture. Clayish soil.

**13061.** *U Kyo.*

From Nantogai, Nantoho, Nanto Prefecture. Clayish soil.

**13062.** *Shun Tsui Ban.*

From Sotosho, Hokutoho, Nanto Prefecture. Clayish soil.

**13063.** *Shi Kin Tsai.*

From Shikyotosho, Shushuho, Nanto Prefecture. Clayish soil.

**13064.** *Chino.*

From Shikyotosho, Shushuho, Nanto Prefecture. Clayish soil.

**13065.** *O Ka Hoe Rai.*

From Dakusuisho, Sarenkaho, Nanto Prefecture. Clayish soil.

**13066.** *Ban Na.*

From Shinsho, Hokutoho, Nanto Prefecture. Clayish soil.

**13067.** *Chien Yu.*

From Shinkogai, Shiiho, Kagi Prefecture. Clayish soil.

**13068.** *O Kau.*

From Chuhoshō, Kagiho, Kagi Prefecture. Clayish soil.

**13069.** *Toa Tsu.*

From Boryo, Boryoshō, Tokari, Ako Prefecture. Loamy soil.

**13070.** *Toa Tsu.*

From Shiushō Shisho, Daichikuri, Hozan Prefecture. Sandy clay soil.

**13035 to 13076—Continued.****13071. *Pei Tsu.***

From Gokosho, Daichikuri, Hozan Prefecture. Sandy clay soil.

**13072. *-Cha Ah Tsu.***

From Sankai Tsusho, Emmukaho, Shoka Prefecture. Sandy soil.

**13073. *Tao Ro.***

From Shojibokuko, Naisho Shisho, Gai Shinka Nanri, Tainan Prefecture. Clayish soil.

**13074. *Hon Hoc.***

From Nairokusho, Nantoho, Nanto Prefecture. Clayish soil.

**13075. *Gya Loom.***

From Nairokusho, Nantoho, Nanto Prefecture. Clayish soil.

**13076. *Pei Tsu.***

From Kobo Suido, Dabyo Nanho, Kagi Prefecture. Sandy soil.

NOTE.—In the above list, Nos. 13035 to 13046 and 13055 to 13068 were marked "*Oryza utilisissima*," while Nos. 13047 to 13054 and 13069 to 13076 were labeled "*Oryza glutinosa*."

**13077. *KOCHIA SCOPARIA.***

From Takoma Park, D. C. Grown by Mr. A. J. Pieters during the season of 1904 for stock purposes.

**13078. *AGARICUS* sp.****Mushroom.**

From Tokyo, Japan. Received thru Mr. T. Watase, president of the Tokyo Plant, Seed, and Implement Company, March 7, 1905.

"*Shiitake*." "Spawn of the edible species of Japanese mushroom, which is cultivated on an immense scale in the forests of Japan. It is a tree-inhabiting fungus and the Japanese have developed a special system of culture by means of which they can produce immense quantities at little expense. This spawn was introduced especially for the experiments of Dr. B. M. Duggar, of the Agricultural Experiment Station, Columbia, Mo., and is well worth calling to the attention of the mushroom growers of America, who should be given a chance to test this in comparison with the ordinary *A. campestris*, which is grown almost exclusively on beds of manure. This variety of *Agaricus* is keenly relished, not only by Japanese but by Europeans living in Japan." (*Fairchild*.)

**13079. *GOSSYPIUM* sp.****Cotton.**

From Lourenço Marquez, East Africa. Presented by Hon. W. Stanley Hollis, United States consul. Received March 3, 1905.

"From the slopes of the Lebombo Mountains, in the district of Lourenço Marquez." (*Hollis*.)

**13080 to 13083. *IPOMOEA* HEDERACEA. Japanese morning-glory.**

From Yokohama, Japan. Received thru the Yokohama Nursery Company, March 6, 1895.

**13080.** Common single.

**13082.** Giant.

**13081.** Double.

**13083.** Single fringed.

**13084. *SECHIU* EDULE.****Chayote.**

From Mayaguez, P. R. Received thru Mr. O. W. Barrett, of the Agricultural Experiment Station, March 8, 1905.

Fruits secured from Mr. S. van L. Lippitt, of Mayaguez, P. R.



**13085. XANTHOSOMA SAGITTIFOLIUM.****Yautia.**

From Mayaguez, P. R. Received thru Mr. O. W. Barrett, of the Agricultural Experiment Station, February 27, 1905.

*Rolliza.* Tubers of the native Porto Rican Yautia "No. 1," from selected plants showing no sign of any fungous disease and growing in new soil. (For description, see No. 15417.)

**13086. COLOCASIA sp.****Taro.**

From Mayaguez, P. R. Received thru Mr. O. W. Barrett, of the Agricultural Experiment Station, February 27, 1905.

Tubers of the *Dasheen* Colocasia from Trinidad, British West Indies. (For description, see No. 15395.)

**13087. PYRUS MALUS.****Apple.**

From Amassia, Asia Minor. Presented by Mr. H. Caramanian. Received March 11, 1905.

*Misket.* "We found it to be a sweet apple of very firm texture and of rather ordinary quality. We do not consider it equal in quality to such varieties as *Lady Sweet*, *Winter Paradise*, *Victoria*, *Green Sweet*, or *Tolman*. It may have value for warm climates, however, and on this account I think it would be well to place scions of it for fruiting as quickly as possible by top-working on bearing trees at some representative southern points." (W. A. Taylor.)

**13088. ALLIUM CEPA.****Onion.**

From Santa Clara, Cal. Received thru C. C. Morse & Co., March 15, 1905.

Grown from S. P. I. No. 9318.

**13089. RHEUM OFFICINALE.****Rhubarb.**

From Paris, France. Received thru Vilmorin-Andrieux & Co., March 15, 1905.

**13090. AVENA SATIVA.****Oat.**

From Lincoln, Nebr. Received thru Prof. T. L. Lyon, Agricultural Experiment Station, March 10, 1905.

*Kherson.*

**13091. AVENA SATIVA.****Oat.**

From Brandon, Wis. Received thru Mr. F. E. Jones, March 16, 1905.

*Swedish Select.* Grown from S. P. I. No. 2788. In the spring of 1899 Mr. David Jones, Brandon, Wis., planted an ounce of No. 2788. Thirty-two seeds grew, and from this little plot he and his neighbors raised 200,000 bushels of oats in 1904.

**13092. AGROPYRON TENERUM.****Slender wheat-grass.**

From Brandon, Manitoba. Received thru A. E. McKenzie & Co., March 16, 1905.

**13093. RHEUM PALMATUM TANGHUITICUM.****Rhubarb.**

From Paris, France. Received thru Messrs. Vilmorin-Andrieux & Co., March 17, 1905.

**13094. GOSSYPIUM HIRSUTUM.****Cotton.**

From Guatemala. Received thru Mr. O. F. Cook, March 17, 1905.

*Rabinal.* "Cultivated by the Quiche Indians of Rabinal and other neighboring places of the dry plateau region of central Guatemala. A variety of the Upland type, grown as an annual crop, tho really a perennial. The stalks are cut back to

the ground every year. The new shoots set flowers and fruit with great promptness, which, with the assistance of the native turkeys, enable a crop to be secured in spite of the presence of the boll weevil.

"This variety may be of interest in southern and southwestern Texas, either as a perennial or an annual. Even in the first year it is likely to be an early-maturing sort." (Cook.) (No. 1.)

### 13095. *Gossypium hirsutum*.

**Cotton.**

From Guatemala. Received thru Mr. O. F. Cook, March 17, 1905.

*Kekchi*. "Grown by the Indians at Secanquim, Cajabon district, Alta Vera Paz, Guatemala, the original locality of the weevil-eating keleps. This variety is of dwarf habit. It begins fruiting while still very young, and matures a crop in six months even in a humid tropical climate where other kinds of cotton would probably require a much longer time. It is expected that in the United States this will prove to be an extra-early variety, tho two or three years of acclimatization may be required. Of the varieties now in the United States the *Kekchi* cotton most nearly resembles the *King*, but it seems to possess the desirable qualities of that variety to an even greater degree and the lint is longer and of better quality." (Cook.) (No. 2.)

### 13096. *Gossypium hirsutum*.

**Cotton.**

From the market of Coban, Alta Vera Paz, Guatemala. Received thru Mr. O. F. Cook, March 17, 1905.

"Supposed to have been grown in the valley of the Polochic River. Probably similar to the *Kekchi* cotton, tho the Indians belong to another tribe." (Cook.) (No. 3.)

### 13097. *Gossypium hirsutum*.

**Cotton.**

From Retalhulen, Guatemala. Received thru Mr. W. R. Maxon, March 17, 1905.

*Pachon*. "The variety most extensively grown in the western part of Guatemala, where a considerable cotton industry exists. Mr. Maxon was informed that this variety was originally introduced into Guatemala from Peru, but an examination of specimens shows that it is an Upland form similar to the *Kekchi* cotton and with the same weevil-resisting adaptations. It is said to mature a crop in five months." (Cook.) (No. 4.)

### 13098. *Gossypium hirsutum*.

**Cotton.**

From Retalhulen, Guatemala. Received thru Mr. W. R. Maxon, March 17, 1905.

*Ixcaco*. "A brown cotton of the Upland type, similar to the brown form of the *Kekchi* cotton. The cotton brings the same price as the *Pachon* and is thought to have a stronger lint." (Maxon.) (No. 5.)

### 13099. *Gossypium hirsutum*.

**Cotton.**

From Retalhulen, Guatemala. Received thru Mr. W. R. Maxon, March 17, 1905.

"Seeds of a supposed hybrid between *Pachon* and *Ixcaco* cotton. A single boll of this type was found on a plant the other bolls of which were white and apparently pure *Pachon*." (Maxon.) (No. 6.)

### 13100. *Gossypium hirsutum*.

**Cotton.**

From Retalhulen, Guatemala. Received thru Mr. W. R. Maxon, March 17, 1905.

"A smooth-seeded variation of *Pachon* cotton said to occur sporadically in the fields of the hairy-seeded form. The fiber is said to be not quite so long as the regular *Pachon*. This form is popularly believed to be that originally cultivated by the Indians in this locality." (Maxon.) (No. 7.)

**13101. GOSSYPIUM HIRSUTUM.****Cotton.**

From Cucanha, near Tucura, Guatemala. Received thru Mr. O. F. Cook, March 17, 1905.

"A cotton similar to *Kekchi* grown in the valley of Polochic River." (Cook.) (No. 8.)

**13102. MESEMBRYANTHEMUM GEMINATUM (?)**

From Sfax, Tunis. Received thru Mr. T. H. Kearney, March 17, 1905.

"Cuttings of a variety of *Mesembryanthemum* that is used for making lawns on land that is so alkaline that deposits of white alkali may be seen beneath the mat of the plant. I believe this will be valuable as a cover for alkaline soils." (Fairchild.)

**13103. CARICA PAPAYA.****Papaw.**

From Esmeraldas, Ecuador. Presented by Mr. George D. Hedian. Received March 16, 1905.

**13104. ALEURITES CORDATA.****Tung-shu or wood-oil tree.**

From Hankow, China. Presented by Consul-General L. S. Wilcox and received at Chico, Cal., March 18, 1905.

"The fruit of this tree is the source of "wood oil," which is being imported in large quantities by this country, where it is used in the manufacture of paints, fine varnishes, and soaps. The tree itself is of stately appearance, with green, smooth bark and spreading branches, making it one of the finest of shade trees. It has been styled, and worthily so, "the national tree of China." The Tung-shu flourishes thruout the Yangtze Valley in latitude 25° to 34° N. It is said not to bear when subjected to temperatures as low as 20° F., altho it will stand any degree of heat. The trees are raised from seed in a bed and transplanted when about a foot high, and seem to do well in almost any kind of soil. The Tung-shu is also propagated by cuttings. It is a rapid grower and will come into bearing in from three to six years, much depending upon the fertility of the soil. The yield of nuts from an average tree may be put at anywhere from 20 to 50 pounds, while the percentage of oil obtained from the nut is 40 per cent. The Chinese find a great many other uses for the oil of this tree; also for its wood and the refuse from the wood oil nut after extraction of the oil. Persons growing the wood oil tree should be cautioned against allowing the oil to come in contact with the skin, as it is extremely poisonous." (Wilcox.)

**13105. SOLANUM COMMERSONI.****Aquatic potato.**

From Burlington, Vt. Presented by Prof. William Stuart, Agricultural Experiment Station, thru Mr. W. A. Orton. Received March 21, 1905.

**13106. LILIUM hyb.****Lily.**

Seedlings resulting from pollinating flowers of *Lilium longiflorum eximium giganteum* (S. P. I. No. 11583) with *Lilium harrisi*. Crossing done by Mr. G. W. Oliver in the Department greenhouse during 1904.

**13107. PAPAVER SOMNIFERUM.****Poppy.**

From Philadelphia, Pa. Received thru Powers, Weightman & Rosengarter, March 21, 1905.

Opium seed from Asia Minor.

**13108 to 13115. ROSA hyb.****Rose.**

From Sawbridgeworth, Herts, England. Received thru Thomas Rivers & Son, The Nurseries, March 23, 1905.

13108. *Conrad F. Meyer.*

13112. *Souv. de Christophe Cochet.*

13109. *Fimbriata.*

13113. *Blanche de Coubert.*

13110. *Mrs. Anthony Waterer.*

13114. *Thusnelda.*

13111. *Rose Apples.*

13115. *Repens Alba.*

**13116 to 13129. ROSA hyb.****Rose.**

From Herts, England. Received from William Paul & Son, Waltham Cross, March 23, 1905.

13116. *Etoile de France.*13123. *Belle Poitevine.*13117. *Countess Cairns.*13124. *Blanc Double de Coubert.*13118. *Earl of Warwick.*13125. *Calocarpa.*13119. *Irene.*13126. *Chedane Guinoisseau.*13120. *Mrs. A. Byass.*13127. *Mercedes.*13121. *America.*13128. *New Century.*13122. *Atropurpurea.*13129. *Rugosa Regliana.***13130 and 13131. CASTANEA spp.****Chestnut.**

Received from Mr. T. E. Steele, Palmyra, N. Y., March 24, 1905.

13130. *CASTANIA CRENATA.* Seedling Japanese chestnut.13131. *CASTANIA SATIVA.* Seedling Spanish chestnut.**13132. (Undetermined.)****Matondo.**

From Melsetter, Rhodesia, South Africa. Presented by Mr. W. M. Longden. Received March 23, 1905.

A fruit by the name of "Matondo," described by Mr. Longden as follows: "The tree is a large, evergreen one, casting a dense shade. It grows to a height of about 60 feet, has a spreading habit, and is a prolific bearer. Fruit oval in shape, with a smooth skin and faint veins; color when ripe, yellow; dark green when unripe. Size up to 3 inches by 2 inches in diameter. Peel tough and thick, not edible; exudes milky fluid, very bitter and distasteful. Flesh edible, jelly-like in appearance, sweet and pleasant to taste. It grows in the Sabi Valley principally, at an altitude of about 1,800 feet, where the climate is very warm and there is comparatively no frost."

"This fruit should be experimented with in Porto Rico, Hawaii, and southern California." (Fairchild.)

**13133. VITIS sp.****Grape.**

From Algeria, North Africa. Presented by Dr. L. Trabut and forwarded by Mr. T. H. Kearney. Received March 27, 1905.

*Boufuri*: (table). A desert-resistant grape.

**13134. AGARICUS sp. (?)****Mushroom.**

From Yokohama, Japan. Received thru Yokohama Nursery Company, March 27, 1905.

**13135. GARCINIA MANGOSTANA.****Mangosteen.**

From Buitenzorg, Java. Received thru Doctor Treub, March 24, 1905

**13136 to 13142.**

From Melsetter, Rhodesia, South Africa. Presented by Mr. W. M. Longden. Received March 27, 1905.

A collection of fruit trees, with descriptions by Mr. Longden, as follows:

13136. (Undetermined.)

**Ivory nut.**

"It (the nut) grows on a palm tree, which sometimes reaches a height of 60 feet. The natives eat the spongy substance between the skin and kernel. The vegetable ivory is, I think, an article of commerce."

**13136 to 13142—Continued.****13137.** ANONA sp.**Custard-apple.**

"Edible. Tree very much resembles the domestic variety; fruit has a delightful flavor."

**13138.** FICUS sp.**Fig.**

"Edible. Grows on the river banks. These have a sweet flavor. There is also another variety larger, perhaps, than any domestic fig. They are comparatively flavorless."

**13139.** (Undetermined.)**"Wild plum."**

"Edible. Tree very similar to your persimmon. Natives also eat the kernel, which has a nutty flavor with a touch of almond, and contains a large percentage of oil, which the natives extract."

**13140.** EUPHORBIA sp. (?)**"Footah."**

"Fruit is used by the natives for making a pleasant drink by soaking the ripe seeds in water, which turns milky when stirred. Seeds are also crushed for oil, of which they contain a large quantity. Tree grows to a height of about 50 feet; dense, shiny, dark-green foliage giving immense shade."

**13141.** (Undetermined.)**"Mutwzwa."**

"Edible. Flavor somewhat similar to damson. Grows in stony ground; bush about 7 feet in height."

**13142.** (Undetermined.)**"Eecha."**

"Species of nut. May be eaten raw, but is usually roasted by the natives. It is only to supplement food supplies in lean years."

**13143 to 13153. ZEA MAYS.****Sweet corn.**

First generation from S. P. I. Nos. 12557 and 12558. Distributed during the season of 1905 for further trial to test the effects of soil, location, etc.

**13143 to 13147.** *Stowell's Evergreen.* Grown from S. P. I. No. 12557.

**13143.** Received from Prof. J. C. Whitten, Columbia, Mo., February, 1905.

**13144.** Received from Mr. J. C. Robinson, Waterloo, Nebr., February, 1905.

**13145.** Received from Prof. R. A. Emerson, Lincoln, Nebr., February, 1905.

**13146.** Grown on the Arlington Farm during the summer of 1904.

**13147.** Received from A. Mitchelson & Son, Tariffville, Conn., February, 1905.

**13148 to 13153.** *Early Crosby.* Grown from S. P. I. No. 12558.

**13148.** Received from Prof. C. P. Ball, Minneapolis, Minn., February, 1905.

**13149.** Received from Prof. R. A. Emerson, Lincoln, Nebr., February, 1905.

**13150.** Received from A. Mitchelson & Son, Tariffville, Conn., February, 1905.

**13151.** Received from Mr. J. C. Robinson, Waterloo, Nebr., February, 1905.

**13152.** Received from Prof. J. C. Whitten, Columbia, Mo., February, 1905.

**13153.** Grown on the Arlington Farm during the summer of 1904.

**13154. PISTACIA sp.****Pistache.**

From Aintab, Turkey. Presented by Rev. A. Fuller thru Mr. Walter T. Swingle. Received March 27, 1905.



**13155. RHUS COPALLINA.****Sumac.**

From Austin, Tex. Presented by Mr. F. T. Ramsey. Received March 27, 1905.

**13156 to 13158.**

From Amassia, Turkey. Presented by Mr. H. Caramanian. Received March 29, 1905.

**13156. PYRUS MALUS.****Apple.****13157. PRUNUS DOMESTICA.****Plum.***Uryūny.* (See S. P. I. No. 10526.)**13158. CYDONIA sp.****Quince.***Adjem.***13159 to 13236. IRIDACEAE.**

From Yokohama, Japan. Received thru Suzuki &amp; Iida, New York, N. Y., March 25, 1905.

**13159 to 13226. IRIS KAEMPFERI.****Iris.****13159. Gekka-no-nami.****13189. Kosui-no-iro.****13160. Shishi-oduri.****13190. Komochi-guma.****13161. Kumoma-no-sora.****13191. Kakujakuro.****13162. Kuma-no-obi.****13192. Momiji-no-taki.****13163. Ho-o-jo.****13193. Shichinkwa.****13164. Geisho-ai.****13194. Yedo-kagami.****13165. Sofu-no-koi.****13195. Uji-no-hotaru.****13166. Mamudsuru.****13196. Shimoyo-no-tanki.****13167. Hana-no-nishiki.****13197. Tsurugi-no-mai.****13168. Yomo-no-umi.****13198. Iso-no-nami.****13169. Meiran.****13199. Oyodo.****13170. Kuma-funjin.****13200. Bandai-no-nami.****13171. Taiheiraku.****13201. Wakamurasaki.****13172. Hana-aoi.****13202. Kyodaisan.****13173. Uchin.****13203. Kigan-no-misao.****13174. Osho-kun.****13204. Koki-no-iro.****13175. Shippo.****13205. Samidare.****13176. Kuno-isho.****13206. Tora odori.****13177. Kiji-no-megumi.****13207. Tsuru-no-kegoro-mo.****13178. Kuno-no-uye.****13208. Datedogu.****13179. Yezo-nishiki.****13209. Ayase-gawa.****13180. Shishi-ikari.****13210. Ho-dai.****13181. Oniga-shima.****13211. Nishiki-hitone.****13182. Sano-watashi.****13212. Riubi.****13183. Yedo-jiman.****13213. Renjo-no-tama.****13184. Senjo-no-hora.****13214. Yomo-zakura.****13185. O-torige.****13215. Shiye-no-yuki.****13186. Shirataki.****13216. Asa-kagura.****13187. Shiga-no-uranami.****13217. Sumida-gawa.****13188. Kagaribi.**

**13159 to 13236—Continued.****13159 to 13226—Continued.**13218. *Tsutsu-izutsu.*13219. *Rinpo.*13220. *Chitose-dsuru.*13221. *Risho-no-tama.*13222. *Kasu-gano.*13223. *Asa-gasumi.*13224. *Fuki-yose.*13225. *Goko-no-asobi.*13226. *Yamato-zukasa.***13227 to 13235. IRIS spp.**13227. IRIS ALBO-PURPU-  
REA.13228. IRIS ALBO-PURPU-  
REA.

13229. IRIS RAPHIOLEPIS.

13230. IRIS RAPHIOLEPIS  
VARIEGATA.**Iris.**

13231. IRIS GRACILIPES.

13232. IRIS SIBIRICA.

13233. IRIS LAEVIGATA.

13234. IRIS LAEVIGATA  
SEMPERFLORENS.13235. IRIS LAEVIGATA  
ALBA.

13236. BELAMCANDA PUNCTATA.

**13237. MEDICAGO SATIVA.****Alfalfa.**

From Chinook, Mont. Received thru the Thomas O'Hanlon Company, March 30, 1905. Grown by George Davidson, near Chinook, in Milk River Valley, under irrigation.

**13238 to 13240.**

From Lourenço Marquez, Portuguese East Africa. Presented by Hon. W. Stanley Hollis, United States consul. Received March 27, 1905.

13238. GOSYPIUM sp.

**Cotton.**

"Native East African cotton seed, which was got for me from the slopes of the Lebombo Mountains by the Bishop of Lebombo." (*Hollis.*)

13239. CARISSA ARDUINA.

**Amatungulu.**

"The 'Martingula,' which is highly esteemed here for eating fresh, as well as for making preserves." (*Hollis.*)

13240. (Undetermined.)

"I have to report that William F. Upshur, esq., of Barrene, Inhambane, has been good enough to furnish me with a small quantity of specimens of a new tree oil seed that is being exploited in the Inhambane district. In Inhambane these oil seeds are called 'Maferera'; in Mozambique, where they grow wild in great profusion, they are called 'Umtizi'; and in Lourenço Marquez, where they are eaten by the natives, they are called 'Umgushu.'" (*Hollis.*)

**13241. ULEX EUROPAEUS.****Gorse, whin, or furze.**

From Dublin, Ireland. Received thru Hogg & Robertson, March 29, 1905.

**13242. COTONEASTER ANGUSTIFOLIA.**

From Orleans, France. Received thru M. Léon Chénault, Route d'Olivet, 79, March 27, 1905.

**13243 to 13255. ROSA sp.****Rose.**

From Worcester, England. Received thru Richard Smith & Co., March 30, 1905.

13243. *Madam George Bruant.*13246. *Madam Charles Worth.*13244. *Rugosa Alba.*13247. *Rugosa Compte D'Em-  
presnel.*13245. *Rugosa, fl. pl.*

**13243 to 13255—Continued.****13248.** *Rugosa Rosea.***13252.** *Harisoni.***13249.** *Rugosa Rubra.***13253.** *Persian Yellow.***13250.** *Austrian Copper.***13254.** *Souv. de Pierre Notting.***13251.** *Austrian Yellow.***13255.** *Marechal Niel.***13256. ZEA MAYS.****Corn.**

From North Pomfret, Vt. Received thru Mr. S. Hewitt, February, 1905.  
*Malakof.* Grown from S. P. I. Nos. 12562 and 12563.

**13257. OLEA EUROPAEA.****Olive.**

From Mustapha, Algeria, North Africa. Presented by Dr. L. Trabut. Received  
 March 30, 1905.  
*Grosse Aberkan.* Cuttings.

**13258. NEPHELIUM LAPPACEUM.****Rambutan.**

From Buitenzorg, Java. Presented by Doctor Treub. Received March 31, 1905.

**13259. MEDICAGO SATIVA.****Alfalfa.**

From Milburn, Nebr. Received thru Mr. C. A. Snyder, April 1, 1905.  
 Seed grown in 1904 on Sec. 13, T. 20, R. 21, Custer County, Nebr., without irri-  
 gation, where it is 240 feet to water.

**13260 to 13262. ZEA MAYS.****Rice popcorn.**

From Sao Paulo, Brazil. Presented by Prof. A. Lofgren, Horto Botanico.  
 Received March 25, 1905.

**13260.** *White.***13262.** *Red.***13261.** *Amber.***13263 to 13265.**

From Yokohama, Japan. Received thru Yokohama Nursery Company, April 3,  
 1905.

**13263.** *CITRUS* sp.**Orange.**

*Natsu duidai.* (See S. P. I. No. 8903.)

**13264.** *JUNCUS EFFUSUS.***Matting rush.****13265.** *SCIRPUS TRIQUETER.***13266 to 13285.**

From Sultepec, Mexico. Presented by Mr. Federico Chisolm, Hacienda  
 "Cabajal." Received March 28, 1905.  
 A collection of unidentified plants.

**13286 to 13290.**

From Philadelphia, Pa. Received thru Henry A. Dreer, Incorporated, April 3,  
 1905.

Flower seeds for growing seed.

**13291. MEDICAGO SATIVA.****Alfalfa.**

From Fayetteville, N. Y. Received thru Mr. F. E. Dawley, April 1, 1905.

**13292. PERSEA GRATISSIMA.****Avocado.**

From Coban, Guatemala. Received thru Mr. G. N. Collins and Mr. C. B. Doyle, March, 1905.

"This thick-skinned type of avocado is very distinct from the varieties commonly found on the markets and from those grown in Florida, the West Indies, and Mexico. It is believed that they will stand shipping much better than the thinner-skinned sorts, and as the quality is fine they should be a valuable acquisition for Porto Rico and Hawaii." (*Collins.*)

**13293 to 13297. CALADIUM ESCULENTUM.****Taro.**

From Magnolia, N. C. Received thru the Newberry Bulb Company, March 30, 1905.

**13298. PUNICA GRANATUM.****Pomegranate.**

Received March 29, 1905, without advices, thru the Georgetown custom-house. Arrived in New York via steamship *Umbria*.

**13299. STUARTIA PENTAGYNA.**

From Morrisville, Pa. Received thru Mr. S. C. Moon, April 4, 1905.

**13300 to 13303. PHALARIS CANARIENSIS.****Canary grass.**

From Marseille, France. Received thru Hon. Robert P. Skinner, United States consul-general, April 5, 1904.

**13300.** Cleaned seed from Rodosto, Turkey.

**13301.** Cleaned seed from Plata, Argentina.

**13302.** Ordinary seed from Rodosto, Turkey.

**13303.** Ordinary seed from Plata, Argentina.

"The exporters of canary seed (*Phalaris canariensis*) of Marseille handle only the imported grades, the best of which reach this city from Rodosto (Turkey). The Rodosto seed is richest and has scarcely any grain. The Plata seed has at times a better aspect than the Rodosto seed, but is much lighter, contains straw in excessive quantities, and the kernels are generally decorticated." (*Skinner.*)

**13304 and 13305.**

From Mustapha, Algeria. Presented by Dr. L. Trabut, government botanist. Received April 7, 1905.

**13304.** *SAPINDUS UTILIS*.

**Soapberry.**

**13305.** *NARCISSUS PACHYBOLBUS*.

**Narcissus.**

A vigorous species from western Algeria and Morocco, having 40 or 50 small flowers in clusters. Doctor Trabut thinks this will be interesting to cross with large-flowered varieties.

**13306 to 13312. LATHYRUS ODORATUS.****Sweet pea.**

From Algiers, Algeria. Presented by Mr. Arkwright F. Telemly. Received April 7, 1905.

Early-maturing sweet peas, as follows:

**13306.** Blue and red.

**13310.** Purple and bronze.

**13307.** Blue.

**13311.** Purple.

**13308.** Rose and white.

**13312.** Red.

**13309.** Lilac.

**13313 to 13315. CHRYSANTHEMUM LEUCANTHEMUM** *hyb.***Shasta daisy.**

From Santa Rosa, Cal. Received thru Mr. Luther Burbank, April 7, 1905.

**13313.** *California.***13315.** *Alaska.***13314.** *Westralia.***13316 to 13318.**

From Lawrence, Kans. Received thru F. Barteldes &amp; Co., April 7, 1905.

**13316.** *ANDRIOPOGON SORGHUM.***Sorghum.***Amber.***13317.** *ANDRIOPOGON SORGHUM.***Kafir corn.***White.***13318.** *ANDRIOPOGON SORGHUM.***Kafir corn.***Red.***13319. ASPARAGUS DUCHESNII.**

From Brussels, Belgium. Received thru Mr. H. Schuster, 66 Rue du Luxembourg, April 8, 1905.

**13320 to 13337. ROSA** *sp.***Rose.**

From Newtownards, County Down, Ireland. Received thru Alex. Dickson &amp; Sons (Limited), Royal Irish Nurseries, April 8, 1905.

**13320.** *Dean Hole.***13330.** *Annie Marie Soupert.***13321.** *Dr. J. Campbell.***13331.** *George Laine Paul.***13322.** *Hugh Watson.***13332.** *Le Progrès.***13323.** *Lady Ashtown.***13333.** *Rugosa Delicata.***13324.** *Mrs. Conway Jones.***13334.** *Souv. de Pierre Leperdrieux.***13325.** *Rev. David Williamson.***13335.** *Schnechlecht.***13326.** *Irish Engineer.***13336.** *Andenkah Job Diering.***13327.** *Irish Harmony.***13337.** *Mme. Jean Dupuy.***13328.** *Perle des Jannes.***13329.** *Baron Lade.***13338. MANGIFERA INDICA.****Mango.**

From Lucknow, India. Received from the Royal Botanical Gardens, thru Mr. Robert Anderson, Lansdowne, Pa., April 11, 1905.

*Bombay.***13339. LOLIUM ITALICUM.****Italian rye-grass.**

From New York, N. Y. Received thru J. M. Thorburn &amp; Co., April 8, 1905.

**13340. MECONOPSIS INTEGRIFOLIA.****Tibetan poppy.**

From Chelsea, England. Received thru James Veitch &amp; Sons (Limited), August 14, 1905.

"English saved seed. A hardy yellow-flowered poppy from Tibet; hardy, biennial. The plant thrives on the north side of a hedge or wall and grows and flowers freely in open borders. The soil should be open and friable, with a large proportion of peat and sand. Good drainage and ample moisture are required. The seed germinates freely either in a cold frame or out of doors in a few weeks from the time of sowing. Any attempt at any time to protect the plants is quite fatal." (*Veitch & Sons.*)



**13341 to 13345. CUCUMIS MELO.****Muskmelon.**

From Detroit, Mich. Received thru D. M. Ferry & Co., April 8, 1905.

13341. *Osage.*

13344. *Baltimore.*

13342. *Defender.*

13345. *Emerald Gem.*

13343. *Bay View.*

**13346. HORDEUM DISTICHUM NUTANS.****Two-row barley.**

From Jena, Germany. Received from Doctor Broili, thru the Wahl-Henius Institute of Fermentology, Chicago, Ill., April 10, 1905.

*Frankish Brewing.* Presumably a high-grade pedigreed sort.

**13347. BERBERIS sp.****Barberry.**

From Gloucester, Mass. Received thru Mr. R. P. Ireland, April 13, 1905.

**13348. MANGIFERA INDICA.****Mango.**

From Seharunpur, India. Received thru Mr. W. Gollan, superintendent of the Government Botanical Gardens, April 13, 1905.

*Bombay Yellow.* Plants.

**13349. GARCINIA XANTHOCHYMUS.**

From Honolulu, Hawaii. Presented by Mr. Gerrit P. Wilder, April 13, 1905.

**13350. OPUNTIA FICUS-INDICA (?).****Prickly pear.**

From Nice, France. Presented by Dr. A. Robertson-Proschowsky. Received April 10, 1905.

"Cuttings of a seedling cactus grown by Doctor Proschowsky from seeds received probably from Mexico. This variety has never been fruited, but is so nearly spineless that it may be of interest as a forage plant." (*Fairchild.*)

**13351 to 13353.****Barberry.**

From Ottawa, Canada. Presented by Prof. William Saunders, director of the Central Experimental Farm. Received April 10, 1905.

13351. *BERBERIS AMURENSIS.*

13353. *BERBERIS SIEBOLDI.*

13352. *BERBERIS SINENSIS.*

**13354. ZEA MAYS.****Popcorn.**

From Karachi, India. Presented by Mr. I. L. F. Beaumont, of the Municipal Gardens and Farm Committee. Received April 10, 1905.

**13355. CUCUMIS MELO.****Muskmelon.**

From Lakin, Kans. Received thru Mr. William Logan, January 26, 1905.

*Rocky Ford.*

**13356. VICIA SATIVA.****Common vetch.**

From New Era, Oreg. Received thru Mr. Henry Gilbrich, April, 1905.

*White.* Said to have been bred by selection from the common type.

**13357. ZEA MAYS.****Sweet corn.**

From Winooski, Vt. Received thru Mr. M. E. Douglass, March 3, 1905.

*Malakof.* Grown from S. P. I. No. 9449. Second generation. "No other early corn nearer than 1 mile either in 1903 or 1904." (*D. S. Bliss.*)

**13358. MEDICAGO SATIVA.****Alfalfa.**

From Agricultural College, N. Dak. Received from the North Dakota Agricultural Experiment Station, thru Mr. C. J. Brand, October 28, 1904.

*Grimm.*

**13359 to 13566.**

Seeds transferred April 15, 1905, from the Office of Grass and Forage Plant Investigations to the Office of Seed and Plant Introduction and Distribution.

**13359. ANTHOXANTHUM ODORATUM.****Sweet vernal grass.**

From Germany, 1904. (Agrost. 2384). From the Louisiana Purchase Exposition, 1904.

**13360. CEPHALARIA TATARICA.**

Grown in U. S. D. A. grass garden, 1902. (Agrost. 307.)

**13361. CEPHALARIA TATARICA.**

Grown in U. S. D. A. grass garden, July, 1904. (Agrost. 307.)

**13362 to 13369. CICER ARIETINUM.****Chick-pea.**

**13362.** Grown at Arlington Farm, 1902. (Agrost. 970-1.)

**13363.** From Parma, Italy. (Agrost. 2456.)

**13364.** From Voghera, Italy. (Agrost. 2457.)

**13365.** From Voghera, Italy. (Agrost. 2458.)

**13366.** From Avellino, Italy. (Agrost. 2459.)

**13367.** From Italy. (Agrost. 2460.)

**13368.** From Italy. (Agrost. 2461.)

**13369.** From Italy. (Agrost. 2462.)

**13370. BROMUS MARGINATUS.**

From Seattle, Wash. Received thru Mr. Henry N. Leckenby. (Agrost. 1886.)

**13371 to 13376.**

Received from Mr. S. W. Mollison, Inspector-General of Agriculture for India.

**13371. DOLICHOS BIFLORUS.**

*Kulthi.* From United Provinces of Agra and Oudh, India. (Agrost. 1646.)

**13372. DOLICHOS BIFLORUS.**

*Kulthi.* From Bombay Presidency, India. (Agrost. 1647.)

**13373. DOLICHOS LABLAB.****Hyacinth bean.**

*Popat.* From Nagpur, Central Provinces, India, 1903. (Agrost. 1648.)

**13374. DOLICHOS LABLAB.****Hyacinth bean.**

*Sem.* From United Provinces of Agra and Oudh, India, 1903. (Agrost. 1649.)

**13375. DOLICHOS LABLAB.****Hyacinth bean.**

*Val.* From Bombay, India, 1903. (Agrost. 1650.)

**13376. DOLICHOS LABLAB.****Hyacinth bean.**

*Val.* From Bombay, India, 1903. (Agrost. 1651.)

**13377. HOLCUS LANATUS.****Velvet grass.**

Received thru the C. H. Lilly Company, Seattle, Wash., 1904. (Agrost. 2094.)

**13359 to 13556—Continued.****13378. LATHYRUS SATIVUS.****Bitter vetch.**

From Catania, Italy, 1904. From Italian exhibit, Louisiana Purchase Exposition. (Agrost. 2389.)

**13379. LATHYRUS CICER.****Winter flat pea.**

From Catania, Italy, 1904. From Italian exhibit, Louisiana Purchase Exposition. (Agrost. 2406.)

**13380. PHASEOLUS CALCARATUS.****Bean.**

From the Alabama Agricultural Experiment Station. (Agrost. 2126.)

**13381. PHASEOLUS CALCARATUS.****Bean.**

Grown at Arlington Farm, 1903, from S. P. I. No. 6564. (Agrost. 941-1 a 1.)

**13382. PHASEOLUS CALCARATUS.****Bean.**

A selection grown at Arlington Farm, 1903, from S. P. I. No. 6564. (Agrost. 941-1 c 1.)

**13383. PHASEOLUS CALCARATUS.****Bean.**

A selection grown at Arlington Farm, 1903, from S. P. I. No. 6564. (Agrost. 941-1 d 1.)

**13384. PHASEOLUS ANGULARIS.****Bean.**

Grown at Arlington Farm, 1903. (Agrost. 969½-1 a 1.) Seeds yellow to light orange.

**13385. PHASEOLUS ANGULARIS.****Bean.**

Grown at Arlington Farm, 1903. (Agrost. 969½-1 b 1.)

**13386. PHASEOLUS ANGULARIS.****Bean.**

Grown at Arlington Farm, 1903. (Agrost. 969½-1 c 1.)

**13387. PHASEOLUS ANGULARIS.****Bean.**

Grown at Arlington Farm, 1903. (Agrost. 969½-1 e 1.)

**13388. PHASEOLUS ANGULARIS.****Bean.**

Grown at Arlington Farm, 1903. (Agrost. 969½-1 f 1.)

**13389. PHASEOLUS ANGULARIS.****Bean.**

Grown at Arlington Farm, 1903. (Agrost. 969½-1 g 1.)

**13390. PHASEOLUS ANGULARIS.****Bean.**

Grown at Arlington Farm, 1903. (Agrost. 969½-1 h 1.)

**13391. PHASEOLUS ANGULARIS.****Bean.**

Grown at Arlington Farm, 1903. (Agrost. 1190-1.)

**13392. PHASEOLUS sp.****Bean.**

Grown at Arlington Farm, 1903. (Agrost. 1191.)

**13393. PHASEOLUS sp.****Bean.**

Special selection with large seeds grown at Arlington Farm, 1903. (Agrost. 1191-1.)

**13394. PHASEOLUS RADIATUS.****Mung bean.**

Grown at Arlington Farm, 1903. (Agrost. 968.)

**13395. PHASEOLUS RADIATUS.****Mung bean.**

From Clemson College, S. C., 1903. (Agrost. 1112.)

*Newman.*

## 13359 to 13556—Continued.

## 13396 and 13397.

Received from Mr. S. W. Mollison, Inspector-General of Agriculture in India.

**13396.** PHASEOLUS RADIATUS. **Mung bean.**

From United Provinces of Agra and Oudh, India, July 8, 1903. (Agrost. 1639.)

**13397.** PHASEOLUS RADIATUS. **Mung bean.**

From Nagpur, Central Provinces, India, 1903. (Agrost. 1640.)

**13398.** PHASEOLUS RADIATUS. **Mung bean.**

From Cedartown, Ga., November, 1904. (Agrost. 2130.)

## 13399 to 13403.

Received from Mr. S. W. Mollison, Inspector-General of Agriculture in India.

**13399.** PHASEOLUS RADIATUS. **Mung bean.**

*Katikha.* From United Provinces of Agra and Oudh, India, 1903. (Agrost. 1641.)

**13400.** PHASEOLUS MAX. **Mung bean.**

*Bhadela.* From United Provinces of Agra and Oudh, India, 1903. (Agrost. 1642.)

**13401.** PHASEOLUS MAX. **Mung bean.**

*Jathia* (?), or *Jettira.* From United Provinces of Agra and Oudh, India, 1903. (Agrost. 1643.)

**13402.** PHASEOLUS MAX. **Mung bean.**

*Udid.* From Bombay Presidency, India, 1903. (Agrost. 1644.)

**13403.** PHASEOLUS MAX. **Mung bean.**

*Udid.* From Nagpur, Central Provinces, India, July 8, 1903. (Agrost. 1645.)

**13404.** PHASEOLUS RETUSUS. **Metcalf bean.**

From Silver City, N. Mex., April 28, 1903. (Agrost. 1176.)

**13405.** PHASEOLUS ANGULARIS. **Bean.**

Grown at Arlington Farm, 1903. (Agrost. 941½.)

**13406.** VICIA sp. **Vetch.**

From Argentine exhibit, Louisiana Purchase Exposition. (Agrost. 2327.)

**13407.** VICIA sp. **Vetch.**

From German exhibit, Louisiana Purchase Exposition. (Agrost. 2455.)

**13408.** VICIA sp. **Vetch.**

Grown at Arlington Farm, 1902. (Agrost. 965; S. P. I. 6553.)

**13409.** VICIA sp. **Vetch.**

Grown at Arlington Farm, 1902. (Agrost. 942-1.)

**13410.** VICIA ERVILIA. **Black bitter vetch.**

From Italian exhibit, Louisiana Purchase Exposition, 1904. (Agrost. 2403.)

**13411.** VICIA FABA. **Horse bean.**

From Naples, Italy, 1904. From Italian exhibit, Louisiana Purchase Exposition. (Agrost. 2415.)

**13412.** VICIA SATIVA. **Common vetch.**

From Argentine exhibit, Louisiana Purchase Exposition. (Agrost. 2314.)

**13413 to 13431.** VICIA SATIVA. **Common vetch.**

From Italian exhibit, Louisiana Purchase Exposition.

**13413.** From Italy. (Agrost. 2388.)

**13359 to 13556—Continued.****13413 to 13431—Continued.****13414.** From Reggio nell' Emilia, Italy. (Agrost. 2390.)**13415.** From Rome, Italy, 1904. (Agrost. 2391.)**13416.** From Fabriano, Italy, 1904. (Agrost. 2392.)**13417.** From Italy, 1904. (Agrost. 2394.)**13418.** From Pistoja, Italy, 1904. (Agrost. 2395.)**13419.** From Milan, Italy, 1904. (Agrost. 2398.)**13420.** From Italy, 1904. (Agrost. 2399.)**13421.** From Fabriano, Italy, 1904. (Agrost. 2400.)**13422.** From Fabriano, Italy, 1904. (Agrost. 2402.)**13423.** From Potenza, Italy, 1904. (Agrost. 2404.)**13424.** From Macerata, Italy, 1904. (Agrost. 2405.)**13425.** From Ancona, Italy, 1904. (Agrost. 2408.)**13426.** From Ancona, Italy, 1904. (Agrost. 2409.)**13427.** From Tursla, Italy, 1904. (Agrost. 2410.)**13428.** From Parma, Italy, 1904. (Agrost. 2411.)**13429.** From Perugia, Italy, 1904. (Agrost. 2413.)**13430.** From Foggia, Italy, 1904. (Agrost. 2414.)**13431.** From Italy, 1904. (Agrost. 2432.)**13432.** VICIA UNIJUGA (?).**Vetch.**

From Japan, March 18, 1903. (Agrost. 1140.)

**13433.** VICIA VILLOSA.**Hairy vetch.**

From Argentine exhibit, Louisiana Purchase Exposition. (Agrost. 2317.)

**13434.** THEMEDA CILIATA.

From Palghar, Thana, India. Received thru Latham &amp; Co., Bombay, India, January 20, 1904.

*Bondani*, a small kind of "Ful" grass. "One of the best sorts of grasses for grazing." (Agrost. 1787.)**13435.** MEDICAGO SATIVA.**Alfalfa.**

Received from Henry Nungesser &amp; Co., New York, N. Y., April 20, 1904.

*Turkestan.* (Agrost. 1957.)**13436.** MEDICAGO SATIVA.**Alfalfa.**

Received from Steele, Briggs Seed Co., Toronto, Canada, December 8, 1904. (Agrost. 2131.)

**13437.** MEDICAGO SATIVA.**Alfalfa.**

Received from F. Barteldes &amp; Co., Lawrence, Kans., 1904.

Arizona grown. (Agrost. 2518.)

**13438.** MEDICAGO SATIVA.**Alfalfa.**

Received from F. Barteldes &amp; Co., Lawrence, Kans., 1904.

Minnesota grown. (Agrost. 2531.)

**13439.** MEDICAGO SATIVA.**Alfalfa.**

Kansas grown. (Agrost. 2530.)

**13440.** MEDICAGO SATIVA.**Alfalfa.**

Kansas grown. (Agrost. 2531.)



## 13359 to 13556—Continued.

13441. *AGROPYRON OCCIDENTALE*.From Hays, Kans. (Agrost.  
1942.)13442. *AGROPYRON OCCIDENTALE*.From Harlem, Mont. (Agrost.  
1982.)13443. *AGROPYRON OCCIDENTALE*.

(Agrost. 1001.)

• 13446. *BROMUS INERMIS*.**Smooth brome-grass.**

From Brandon, Mass. Received thru Brandon Seed House. (Agrost. 1996.)

13447. *BROMUS MARGINATUS*.

From Union, Oreg. (Agrost. 2091.)

13448. *BROMUS POLYANTHUS PANICULATUS*. (Agrost. 1177.)13449. *CALAMAGROSTIS HYPERBOREA*. (Agrost. 841.)13450. *ELYMUS CONDENSATUS*.**Giant rye-grass.**

From Union, Oreg. (Agrost. 2092.)

13451. *ELYMUS TRITICOIDES*. (Agrost. 2096.)**Wild wheat.**13452. *ELYMUS VIRGINICUS SUBMUTICUS*.

From Union, Oreg. (Agrost. 1800.)

13453. *FESTUCA PRATENSIS*.**Meadow fescue.**

From Union, Oreg. (Agrost. 1799.)

13454 to 13477. *VIGNA SINENSIS*.**Cowpea.**

13454.

*Early Blackeye*. Grown on Arlington Farm, 1904. Third generation from Agrost. 1233. From McCullough, March, 1902. (Agrost. 1233-3.)

13455.

*Large Blackeye*. Grown on Arlington Farm, 1904. Third generation from Agrost. 1224. From Alabama Experiment Station, March, 1902. (Agrost. 1224-3.)

13456.

*Extra Early Blackeye*. Grown on Arlington Farm, 1904. Third generation from Agrost. 1232. From Arkansas Station, March, 1902. Grown there for five years. (Agrost. 1232-3.)

13457.

*California Blackeye*. Grown on Arlington Farm, 1904. Third generation from Agrost. 1231. From Arkansas Station, March, 1904. (Agrost. 1231-3.)

13458.

*Clay*. Grown on Arlington Farm, 1904. Third generation from Agrost. 1255. From South Carolina Station, March, 1902. (Agrost. 1255-3.)

13459.

*Clay*. From T. W. Wood & Sons, April 2, 1904. (Agrost. 1937.)

13460.

*Iron*. Grown on Arlington Farm, 1904. Third generation from Agrost. 1247. From Mr. W. A. Orton, March, 1902. (Agrost. 1247-3.)

**13359 to 13556**—Continued.**13454 to 13477**—Continued.**13461.**

*Iron.* Grown by Mr. J. P. Dunlap, Dwight, Nebr., from seed of Congressional distribution, presumably from Monetta, S. C. Received from Mr. Dunlap, October, 1904. (Agrost. 2109.)

**13462.**

*Iron.* Received from Mr. S. M. Byrd, Cedartown, Ga., January 11, 1905. Grown in 1904 from seed of Congressional distribution, presumably from Monetta, S. C. (Agrost. 2136.)

**13463.**

*Iron.* Received from Mr. W. J. Edwards, Willshire, Ohio, March 6, 1905, and from Mr. J. A. Ritchie, Wapakoneta, Ohio, March 20, 1905. Grown from seed of Congressional distribution, presumably from Monetta, S. C. (Agrost. 2217.)

**13464.**

*Iron.* Received from four men in central Kentucky and southern Illinois, who grew it in 1904 from seed of Congressional distribution, presumably from Monetta, S. C. (Agrost. 2260.)

**13465.**

*Iron.* Received in March, 1905, from Mr. Han Abild, Wakonda, Clay County, S. Dak., who grew it in 1904 from seed of Congressional distribution, presumably from Monetta, S. C. (Agrost. 2310.)

**13466.**

*Iron.* Received from Mr. Charles G. Diamant, Bridgeton, N. J., March 8, 1905. Grown from seed of Congressional distribution, presumably from Monetta, S. C. (Agrost. 2386.)

**13467.**

*Iron.* Received from G. C. Dulebohn, Kearney, Kans., March, 1905. Grown from seed of Congressional distribution, presumably from Monetta, S. C. (Agrost. 2387.)

**13468.**

*Wonderful.* Grown on Arlington Farm, 1904. From Texas Seed and Floral Company, Dallas, Tex., March, 1902. (Agrost. 1251-3.)

**13469.**

*Wonderful.* From T. W. Wood & Sons, Richmond, Va., April 2, 1904. (Agrost. 1938.)

**13470.**

*Warren's Extra Early.* Grown on Arlington Farm, 1904. Obtained in March, 1902, from Arkansas station, where it was grown for four years, and changed materially in size, color, and shape from the original seed procured from Maule, of Philadelphia. (Agrost. 1218-3.)

**13471.**

*Warren's New Hybrid.* Grown on Arlington Farm, 1904. From Louisiana station, March, 1902. (Agrost. 1288-3.)

**13472.**

*Michigan Favorite.* From Mr. E. E. Evans, Westbranch, Mich., May 13, 1904. (Agrost. 1991.)

**13473.**

*Michigan Favorite.* Grown on Arlington Farm, 1904. From Mr. E. E. Evans, Westbranch, Mich., May 13, 1904. (Agrost. 1991-1.)

**13474.**

*Michigan Favorite.* Received in March, 1905, from Mr. Han Abild, Wakonda, Clay County, S. Dak. Grown from seed of Congressional distribution, presumably from Monetta, S. C. (Agrost. 2309.)

**13359 to 13556—Continued.****13454 to 13477—Continued.****13475.***Whippoorwill.* Grown on Arlington Farm, 1904. From T. W. Wood & Sons, Richmond, Va., March, 1902. (Agrost. 1269-2.)**13476.***Taylor.* Grown on Arlington Farm, 1904. From Alabama Station, March, 1902. (Agrost. 1248-3.)**13477.***New Era.* Grown on Arlington Farm, 1904. From T. W. Wood & Sons, Richmond, Va., April 2, 1904. (Agrost. 1936-1.)**13478 to 13487. MEDICAGO SATIVA.****Alfalfa.****13478.**

Received from F. Barteldes &amp; Co., Lawrence, Kans., April 22, 1904. (Agrost. 1968.)

**13479.**

Grown in Arizona. Received from Henry Nungesser &amp; Co., New York, N. Y., April 20, 1904. (Agrost. 1958.)

**13480.**

Grown in Meade County, Kans. Received from F. Barteldes &amp; Co., Lawrence, Kans., April 22, 1904. (Agrost. 1970.)

**13481.**

Grown in Italy. Received from Henry Nungesser &amp; Co., New York, N. Y., April 20, 1906. (Agrost. 1956.)

**13482.**

Grown in France. Received from Henry Nungesser &amp; Co., New York, N. Y., April 20, 1904. (Agrost. 1955.)

**13483.**

Grown in Utah. Received from C. A. Smurthwaite Produce Company, Ogden, Utah, April 25, 1904. (Agrost. 1983.)

**13484.**

Grown in Colorado. Received from F. Barteldes &amp; Co., Lawrence, Kans., April 20, 1904. (Agrost. 1967.)

**13485.**

Grown in Kansas. Received from F. Barteldes &amp; Co., Lawrence, Kans., April 20, 1904. (Agrost. 1969.)

**13486.**

Grown in Utah. (Agrost. 2532.)

**13487.**

Grown in Texas. (Agrost. 2533.)

**13488. MEDICAGO MEDIA.****Sand lucern.**

Grown in Wisconsin. (Agrost. 2534.)

**13489. MEDICAGO SATIVA.****Alfalfa.**

Grown in Wyoming. Received from the A. Dickinson Company, Chicago, Ill., 1903. (Agrost. 1885.)

**13490. TRIFOLIUM PRATENSE.****Red clover.**

Received from T. W. Wood &amp; Sons, Richmond, Va., April 18, 1904. (Agrost. 1952.)

## 13359 to 13556—Continued.

- 13491. TRIFOLIUM INCARNATUM. Crimson clover.**  
*White Blooming.* Received from T. W. Wood & Son, Richmond, Va., April 18, 1904. (Agrost. 1953.)
- 13492. TRIFOLIUM INCARNATUM. Crimson clover.**  
 Grown in Moravia. Received from Henry Nungesser & Co., New York, N. Y., April 20, 1904. (Agrost. 1964.)
- 13493. TRIFOLIUM INCARNATUM. Crimson clover.**  
 Grown in France. Received from Henry Nungesser & Co., New York, N. Y., April 20, 1904. (Agrost. 1961.)
- 13494. TRIFOLIUM INCARNATUM. Crimson clover.**  
 Grown in Italy. Received from Henry Nungesser & Co., New York, N. Y., April 20, 1904. (Agrost. 1962.)
- 13495. TRIFOLIUM PRATENSE. Red clover.**  
 Received from F. Barteldes & Co., Lawrence, Kans., April 22, 1904. (Agrost. 1955.)
- 13496. TRIFOLIUM PRATENSE. Red clover.**  
 Grown in Barry County, Mo. Received from F. Barteldes & Co., Lawrence, Kans., April 22, 1904. (Agrost. 1966.)
- 13497. TRIFOLIUM INCARNATUM. Crimson clover.**  
 Grown in England. Received from Henry Nungesser & Co., New York, N. Y., April 20, 1903. (Agrost. 1963.)
- 13498. TRIFOLIUM PRATENSE. Red clover.**  
 Grown in Russia. Received from Henry Nungesser & Co., New York, N. Y., April 20, 1903. (Agrost. 1960.)
- 13499. TRIFOLIUM PRATENSE. Red clover.**  
 Received from T. W. Wood & Sons, Richmond, Va., February 19, 1903. (Agrost. 1113.)
- 13500. TRIFOLIUM ALEXANDRINUM. Berseem.**  
 Grown in Egypt. Received from Henry Nungesser & Co., New York, N. Y., April 20, 1904. (Agrost. 1959.)
- 13501. TRIFOLIUM HYBRIDUM. Alsike.**  
 (Agrost. 891.)
- 13502. GLYCINE HISPIDA. Soy bean.**  
*Ogema.* Received from Mr. Edward E. Evans, West Branch, Mich., May, 1904. (Agrost. 1992.)
- 13503. GLYCINE HISPIDA. Soy bean.**  
 Grown at Arlington Farm, 1904. (Agrost. 912-3.)
- 13504. AGROPYRON OCCIDENTALE.**  
 Received from Thomas Everett, Harlem, Mont., April, 1905.
- 13505. BROMUS MARGINATUS.**  
 Collected by Mr. J. S. Cotton, in the Wenache Mountains, Washington, in 1904. (Agrost. 2098.)
- 13506. TRIFOLIUM PRATENSE. Red clover.**  
 Grown at Gap, French Alps, France. (Agrost. 2218.)
- 13507. TRIFOLIUM PRATENSE. Red clover.**  
 Grown at Mysoke, Myto, Bohemia. (Agrost. 2219.)
- 13508. TRIFOLIUM PRATENSE. Red clover.**  
 Grown at Neu Bydzow, Bohemia. (Agrost. 2220.)

## 13359 to 13556—Continued.

13509.	TRIFOLIUM PRATENSE.	Red clover.
	<i>Zelenac.</i> Grown at Neu Bydzw, Bohemia. (Agrost. 2221.)	
13510.	TRIFOLIUM HYBRIDUM.	Alsike.
	Grown at Neu Bydzw, Bohemia. (Agrost. 2222.)	
13511.	TRIFOLIUM REPENS.	White clover
	Grown at Alt Bydzw, Bohemia. (Agrost. 2223.)	
13512.	TRIFOLIUM REPENS.	White clover.
	Grown at Podolia, Russia. (Agrost. 2224.)	
13513.	TRIFOLIUM PRATENSE.	Red clover.
	Grown at Goteborg, Sweden. (Agrost. 2225.)	
13514.	TRIFOLIUM HYBRIDUM.	Alsike.
	Grown at Goteborg, Sweden. (Agrost. 2226.)	
13515.	TRIFOLIUM PRATENSE.	Red clover.
	Grown in Chile. (Agrost. 2227.)	
13516.	TRIFOLIUM PRATENSE.	Red clover.
	Grown at Gelderland, Holland. (Agrost. 2228.)	
13517.	TRIFOLIUM PRATENSE.	Red clover.
	Grown at Brabant, Holland. (Agrost. 2229.)	
13518.	TRIFOLIUM REPENS.	White clover.
	Grown near Arnheim, Holland. (Agrost. 2230.)	
13519.	MEDICAGO SATIVA.	Alfalfa.
	Grown at Saragossa, Spain. (Agrost. 2231.)	
13520.	MEDICAGO SATIVA.	Alfalfa.
	Grown at Pfalz, Palatinate, Germany. (Agrost. 2232.)	
13521.	MEDICAGO SATIVA.	Alfalfa.
	Grown in Oran Province, Algeria. (Agrost. 2233.)	
13522.	TRIFOLIUM PRATENSE.	Red clover.
	Grown at Toulouse, Garonne, France. (Agrost. 2234.)	
13523.	TRIFOLIUM PRATENSE.	Red clover.
	Grown at Charente-Inferieure, Poitou, France. (Agrost. 2235.)	
13524.	TRIFOLIUM PRATENSE.	Red clover.
	Grown at Nantes, Anjou, France. (Agrost. 2236.)	
13525.	TRIFOLIUM PRATENSE.	Red clover.
	Grown at Troyes, Champagne, France. (Agrost. 2237.)	
13526.	TRIFOLIUM PRATENSE.	Red clover.
	Grown at St. Malo, Bretagne, France. (Agrost. 2238.)	
13527.	TRIFOLIUM PRATENSE.	Red clover.
	Grown at Albeville, Picardy, France. (Agrost. 2239.)	
13528.	TRIFOLIUM ALEXANDRINUM.	Berseem.
	Grown at Alexandria, Egypt. (Agrost. 2240.)	
13529.	TRIFOLIUM REPENS.	White clover.
	Grown at Milan, Lodi, Italy. (Agrost. 2241.)	
13530.	TRIFOLIUM REPENS.	White clover.
	Grown at Lorraine, France. (Agrost. 2242.)	



**13359 to 13556—Continued.**

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| <b>13531.</b> TRIFOLIUM REPENS.  | <b>White clover.</b>     |
| Grown at Lorraine, France. (Agrost. 2243.)                             |                          |
| <b>13532.</b> TRIFOLIUM FILIFORME.                                     |                          |
| Grown at Poitiers, France. (Agrost. 2244.)                             |                          |
| <b>13533.</b> TRIFOLIUM FRAGIFERUM.                                    |                          |
| Grown at Paris, France. (Agrost. 2245.)                                |                          |
| <b>13534.</b> TRIFOLIUM HYBRIDUM.                                      | <b>Alsike.</b>           |
| Grown at Beauce, France. (Agrost. 2246.)                               |                          |
| <b>13535.</b> TRIFOLIUM HYBRIDUM.                                      | <b>Alsike.</b>           |
| Grown at Champagne, France. (Agrost. 2247.)                            |                          |
| <b>13536.</b> TRIFOLIUM PANNONICUM.                                    | <b>Hungarian clover.</b> |
| Grown at Paris, France. (Agrost. 2248.)                                |                          |
| <b>13537.</b> TRIFOLIUM INCARNATUM.                                    | <b>Crimson clover.</b>   |
| Grown at Poitou, France. (Agrost. 2249.)                               |                          |
| <b>13538.</b> TRIFOLIUM INCARNATUM.                                    | <b>Crimson clover.</b>   |
| Grown at Beauce, France. (Agrost. 2250.)                               |                          |
| <b>13539.</b> TRIFOLIUM INCARNATUM.                                    | <b>Crimson clover.</b>   |
| Grown at Beauce, France. (Agrost. 2251.)                               |                          |
| <b>13540.</b> TRIFOLIUM INCARNATUM.                                    | <b>Crimson clover.</b>   |
| Grown at Beauce, France. (Agrost. 2252.)                               |                          |
| <b>13541.</b> MEDICAGO SATIVA.   | <b>Alfalfa.</b>          |
| Grown at Gard, France. (Agrost. 2253.)                                 |                          |
| <b>13542.</b> MEDICAGO SATIVA.   | <b>Alfalfa.</b>          |
| Grown at Orange, Provence, France. (Agrost. 2254.)                     |                          |
| <b>13543.</b> MEDICAGO SATIVA.   | <b>Alfalfa.</b>          |
| Grown at Charente, Poitou, France. (Agrost. 2255.)                     |                          |
| <b>13544.</b> MEDICAGO SATIVA.   | <b>Alfalfa.</b>          |
| Grown at Anjou, Pays, France. (Agrost. 2256.)                          |                          |
| <b>13545.</b> MEDICAGO SATIVA.   | <b>Alfalfa.</b>          |
| Grown at Nord, France. (Agrost. 2257.)                                 |                          |
| <b>13546.</b> MEDICAGO SATIVA.   | <b>Alfalfa.</b>          |
| From Turkestan, Asia. (Agrost. 2258.)                                  |                          |
| <b>13547.</b> MEDICAGO SATIVA.   | <b>Alfalfa.</b>          |
| Grown at Bolognā, Italy. (Agrost. 2255.)                               |                          |
| <b>13548.</b> TRIFOLIUM PRATENSE.                                      | <b>Red clover.</b>       |
| Grown at Warwickshire, England. (Agrost. 2526.)                        |                          |
| <b>13549.</b> TRIFOLIUM PRATENSE.                                      | <b>Red clover.</b>       |
| Grown at Hampshire, England. (Agrost. 2527.)                           |                          |
| <b>13550.</b> TRIFOLIUM REPENS.  | <b>White clover.</b>     |
| Grown at Norfolkshire, England. (Agrost. 2528.)                        |                          |
| <b>13551.</b> TRIFOLIUM HYBRIDUM.                                      | <b>Alsike.</b>           |
| Grown at Cambridge, England. (Agrost. 2529.)                           |                          |
| <b>13552.</b> MEDICAGO DENTICULATA.                                    | <b>Bur clover.</b>       |
| From T. W. Wood & Sons, Richmond, Va., March 16, 1903. (Agrost. 1129.) |                          |

**13359 to 13556—Continued.****13553. ATRIPLEX BRACTEOSA.**

From Phoenix, Ariz. Collected by Dr. D. Griffiths, October 16, 1903. (Agrost. 1824.)

**13554. ATRIPLEX BRACTEOSA.**

From Tucson, Ariz. Collected by Dr. D. Griffiths, October 11, 1903. (Agrost. 1825.)

**13555. ATRIPLEX BRACTEOSA.**

From San Rita Mountains, Arizona. Collected by Dr. D. Griffiths, October 10, 1903. (Agrost. 1826.)

**13556. ATRIPLEX CONFERTIFOLIA.**

Collected by Dr. D. Griffiths, 1903. From valley of the Little Colorado, Arizona. (Agrost. 1828.)

**13557. ATRIPLEX BRACTEOSA.**

From Santa Rita Mountains, Arizona. Collected by Dr. D. Griffiths, May 23, 1903. (Agrost. 1827.)

**13558. MELILOTUS SULCATA.**

From Algeria, October, 1903. (Agrost. 1161.)

**13559. MELILOTUS SPECIOSA.**

From Shao-king, Chehkiang Province, China. Received February 12, 1904. Presented by Mr. Cyril E. Bonfield.

"The Chinese mainly use its heavy, rank growth for fertilizing the soil previous to sowing rice." (Agrost. 1866.)

**13560. TRIFOLIUM LONGIPES.**

**Mountain clover.**

From Wenache Mountains, Washington, at altitude of 5,000 feet. Collected by Mr. J. S. Cotton, October, 1904. (Agrost. 2108.)

**13561. MEDICAGO SATIVA.**

**Alfalfa.**

From A. LeCoq & Co., Darmstadt, Germany, March 28, 1903. *Turkestan.* (Agrost. 2208.)

**13562. HORDEUM BULBOSUM.**

Received June 28, 1904. (Agrost. 263.)

**13563. PANICUM MAXIMUM.**

**Guinea grass.**

From Barbados, West Indies.

**13564. MEDICAGO SATIVA.**

**Alfalfa.**

From Mollendo, Peru. Collected by Mr. Enrique Meier in 1903. (Agrost. 2168.)

**13565. ANDROPOGON SORGHUM.**

**Milo maize.**

Purchased from Mr. W. W. Hutchens, Chillicothe, Tex., in the autumn of 1904. (Agrost. 2090.)

**13566. BOUTELOUA CURTIPENDULA.**

**Side oats.**

Received from Mr. James K. Metcalfe, Silver City, N. Mex., February 26, 1904. (Agrost. 1889.)

**13567. OLEA EUROPAEA.**

**Olive.**

From Tunis, North Africa. Received from Mr. Louis Fidelle, thru Mr. T. H. Kearney, April 20, 1905.

*Chemlali.* "This is an olive with very small fruit, very rich in oil, and a heavy yielder, adapted to the driest, hottest region known in which olive culture flourishes, the rainfall at Sfax, in southern Tunis, where it is the only variety grown extensively, averaging about 10 inches yearly, and sometimes falling to 5 or 6 inches as the average for several successive years. Notwithstanding this small rainfall, the orchards are never irrigated at Sfax except during the first two or three summers after plant-

ing. In some orchards the cuttings are irrigated only a single time, receiving about 6 gallons each. Extraordinary precautions are taken to preserve the soil moisture near the surface, the olive being a shallow-rooting tree. The trees are planted from 65 to 80 feet apart each way, the wider planting giving seven trees per acre. The ground between is kept entirely clean, not even grain crops being grown after the tree begins to bear. The surface of the soil is always kept in a well-pulverized condition to reduce evaporation. Three or four plowings a year are given, and as many cultivations as are necessary to keep out weeds. Manuring is practised only to a very limited extent. The orchards at Sfax are always created with pieces of wood from the base of very old trees, such as those sent you. The cuttings are generally set out in the fall (but sometimes in the spring) in the bottom of holes that are 2 feet deep and 2 feet square. These are filled up as the tree grows, until in about two years they are entirely filled. It is often the practise to keep a shallow basin, 6 inches or so deep, around the base of the tree during the rainy season (winter), the diameter of the basin being about equal to that of the spread of the foliage. In summer the ground is plowed up to the bases of the trees. The soil around Sfax is a reddish sandy loam to a depth of 2 or 3 feet or more, below which hardpan is often encountered.

"The trees are pruned during the harvest every other year, beginning when 3 years old. The average yields obtained at Sfax from trees respectively 10, 15, 20, and 25 years old appear to be about 2, 6, 10, and 12½ quarts of oil per tree. In good years twice as much is obtained. The percentage of oil in the fruit, as well as the quantity of fruit produced, increases rapidly as the tree grows older." (*Kearney.*)

### 13568. *MUSA SAPIENTUM.*

**Banana.**

From Gabes, Tunis, North Africa. Received thru Mr. T. H. Kearney, April 20, 1905.

### 13569. *PISTACIA VERA.*

**Pistache.**

From Caltanissetta, Sicily. Received thru Mr. T. H. Kearney, from Signor Deleo, April 20, 1904.

*Trabonella.*

### 13570. *ZEA MAYS.*

**Sweet corn.**

From Riverside Farm, Nashua, N. H. Received April 17, 1905.

*Crosby.* Said to be the result of eighteen years' selection.

### 13571. *NEPHELIUM LAPPACEUM.*

**Rambutan.**

From Buitenzorg, Java. Received thru Doctor Treub, April 22, 1905.

Native of south India and Malay Islands, and furnishes a fruit similar to the Litchi, namely, the Rambutan or Ramboostan fruit. All species of *Nephelium* seem to require rather a moist, mild, forest clime than great atmospheric heat.

The fruit is of a bright-red color, about 2 inches long, of an oval form, and slightly flattened, and covered with long, soft, fleshy spines or thick hairs. Like the other *Nepheliums* it contains a pleasant acidulous pulp very grateful in tropical countries.

### 13572. *GARCINIA MANGOSTANA.*

**Mangosteen.**

From Buitenzorg, Java. Received thru Doctor Treub, April 17, 1905.

### 13573. *JUGLANS REGIA.*

**Persian walnut.**

From Kashgar, eastern Turkestan, Asia. Presented by Rev. P. J. P. Hendriks. Received April 11, 1905.

### 13574. *GLYCYRRHIZA GLABRA.*

**Licorice.**

From London, England. Received thru Messrs. Barr & Sons, April 17, 1905.

### 13575. *ALTHAEA ROSEA.*

**Hollyhock.**

From New York, N. Y. Received from Henry & Lee, importers, March, 1905.

*Japanese.*

**13576 to 13582.**

From Christiania, Norway. Presented by Mr. C. Doxrud, thru Miss Carrie Harrison, of this Department. Received April 13, 1905.

**13576.** AVENA SATIVA. Oat.

*White.* Cultivated in 1898 under the Arctic Circle.

**13577.** AVENA SATIVA. Oat.

*Black.* Cultivated at northern latitude of 64°.

**13578.** HORDEUM VULGARE (?). Barley.

Cultivated in 1898 under the Arctic Circle.

**13579.** PISUM SATIVUM. Pea.

Cultivated at northern latitude of 63½°.

**13580.** PHLEUM PRATENSE. Timothy.

Cultivated at northern latitude of 63½°.

**13581.** TRIFOLIUM PRATENSE. Red clover.

Cultivated at northern latitude of 63½°.

**13582.** VICIA sp. Vetch.

Cultivated at northern latitude of 63½°.

"We are informed that these seeds have been collected within the Arctic Circle, and it is probable that they represent very short-seasoned types, which are likely to be of unusual value in northern Alaska and possibly in portions of our Northern States." (*Fairchild.*)

**13583 to 13585. GOSSYPIUM sp. Cotton.**

From Peru. Received thru W. R. Grace & Co., New York, N. Y., April 19, 1905.

**13583.** *Vitarte.*

Smooth cotton seed from Vitarte; represents the seed of cotton grown in the valleys of Peru. This cotton is similar to Egyptian and is known as "*Egypto*" cotton. It is used by the various cotton mills in this country in the manufacture of "domestics." The surplus is shipped to Liverpool, where it finds a market at a price a little over American cotton, say 0.40d. per pound. There is one crop of this cotton every year, the same as with American cotton. The seed is planted in September or October and the cotton is gathered in May or August the following year. The annual crop is about 7,500,000 pounds.

**13584.** *Palpa.*

**13585.** *Nazca.*

*Palpa*, *Nazca*, and *Ica* (No. 14801) represent seed of Peruvian cotton grown in these different places, which are in the southern part of Peru. Here the crop is twice a year, same seasons as the "*Full rough*." Crop varies from 6,000 bales of 100 pounds in a dry year to 15,000 bales in a good year. The cotton seed of the "*Full rough*" (No. 12938) and "*Moderate rough*" (*Palpa*, *Nazca*, and *Ica*) is exported to England, while the seed of the "*Egypto*" is pressed here and the cotton-seed cake, known as "*Pasta*," is shipped to Liverpool. The oil is sold here chiefly for use in mines, and portions of it as Italian salad oil.

**13586. PILULARIS CANARIENSIS. Canary grass.**

From Patras, Greece. Presented by Mr. S. Xanthopoulos, of the Station Agricole. Received April 19, 1905.

In his letter of April 1, Mr. Xanthopoulos stated that this seed was procured by him from Turkey.

**13587 to 13599.**

From Chelsea, England. Received thru James Veitch & Sons, March 28, 1905.

Flower seeds.

**13600 to 13620.**

From Reading, England. Received thru Sutton & Sons, about March 3, 1905.  
Flower seeds.

**13621 and 13622.****Matting rush.**

From Tokyo, Japan. Presented by Prof. J. Matsumura, Imperial University.  
Received April 24, 1905.

**13621.** JUNCUS EFFUSUS DECIPI-  
ENS.

**13622.** JUNCUS SETCHUENSIS EF-  
FUSOIDES.

**13623 to 13636.**

From London, England. Received thru Barr & Sons, Covent Garden, March 8, 1905.  
Flower seeds.

**13637 to 13647.**

From New York, N. Y. Received thru J. M. Thorburn & Co., about February 17, 1905.  
Flowering perennials.

**13648. MEDICAGO CANCELLATA.**

From Rostoff on Don, Russia. Received from Mr. George R. Martin, thru the American consular agency, September 21, 1905.

**13649 to 13663.**

From Erfurt, Germany. Received thru Mr. Ernst Benary, March 16, 1905.  
Flower seeds.

**13664 to 13693.**

From Paris, France. Received thru Vilmorin-Andrieux & Co., March 3, 1905.  
Flower seeds.

**13694 and 13695.**

From Marblehead, Mass. Received thru James J. H. Gregory & Son, February 27, 1905.  
Flower seeds.

**13696 to 13698.**

From Philadelphia, Pa. Received thru Henry A. Dreer, Incorporated, in the spring of 1905.  
Flower seeds.

**13699 to 13703.**

From Naples, Italy. Received thru Mr. Max Herb, in the spring of 1905.  
Flower seeds.

**13704. RUDBECKIA SPECIOSA BICOLOR.**

From Philadelphia, Pa. Received thru W. A. Burpee & Co., February 17, 1905.

**13705 to 13707.**

From Boston, Mass. Received thru W. W. Rawson & Co., 12 Faneuil Hall Square, about February 15, 1905.  
Flower seeds.



**13708 to 13711.**

From Boston, Mass. Received thru R. & J. Farquhar & Co., in January, 1905.  
Flower seeds.

**13712 to 13714.**

From Ottawa, Ontario, Canada. Presented by Mr. J. B. Lewis, C. E., 126  
Sparks street. Received February 21, 1905.  
Flower seeds.

**13715 to 13718.**

From Erfurt, Germany. Received thru Mr. F. C. Heinemann, in the spring of  
1905.  
Flower seeds.

**13719 to 13721.**

From Erfurt, Germany. Received thru Haage & Schmidt, in the spring of 1905.  
Flower seeds.

**13722 and 13723. AQUILEGIA sp.****Columbine.**

From Wordsley, Stourbridge, England. Received thru Webb & Sons, in the  
spring of 1905.

**13724. PAPAVER ORIENTALE hyb.****Poppy.**

From Boston, England. Received thru W. W. Johnson & Co., March 7, 1905.

**13725 to 13727.**

(Origin and date of receipt uncertain.)  
Flower seeds.

**13728. LANSIUM DOMESTICUM.****Doekoe.**

From Buitenzorg, Java. Presented by Doctor Treub. Received April 29 and  
May 4, 1905.

**13729 to 13731. PERSEA GRATISSIMA.****Avocado.**

From Miami, Fla. Presented by Mr. George B. Celson to the Subtropical Labo-  
ratory thru Mr. S. B. Bliss. Received April 12, 1905.

**13729. Baldwin.****13731. Rico.****13730. Haden.****13732. MORAEA IRIDIODES.**

From Cape Town, South Africa. Presented by Prof. P. MacOwan, Department  
of Agriculture. Received April 24, 1905.

A native South African plant, growing 2½ feet high; flowers iris-like.

**13733 to 13794.**

Seeds transferred from the Office of Grass and Forage Plant Investigations to the  
Office of Seed and Plant Introduction and Distribution, May 1, 1905.

**13733 to 13771.**

From the Louisiana Purchase Exposition.

**13733. BRASSICA NAPUS.****Rape.**

From Milan, Italy. (Agrost. 2476.)

## 13733 to 13794—Continued.

## 13733 to 13771—Continued.

13734. TRIFOLIUM PRATENSE. From Voghera, Italy. (Agrost. 2477.)	Red clover.
13735. TRIFOLIUM PRATENSE. From Padova, Italy. (Agrost. 2478.)	Red clover.
13736. TRIFOLIUM PRATENSE. From Asti, Italy. (Agrost. 2479.)	Red clover.
13737. TRIFOLIUM PRATENSE. From Lodi, Italy. (Agrost. 2480.)	Red clover.
13738. MEDICAGO SATIVA. From Milan, Italy. (Agrost. 2481.)	Alfalfa.
13739. MEDICAGO SATIVA. From Padova, Italy. (Agrost. 2482.)	Alfalfa.
13740. TRIFOLIUM PRATENSE. From Lorino, Italy. (Agrost. 2483.)	Red clover.
13741. TRIFOLIUM PRATENSE. From Aguila, Italy. (Agrost. 2484.)	Red clover.
13742. MEDICAGO LUPULINA. From Como, Italy. (Agrost. 2485.)	Yellow trefoil.
13743. MEDICAGO SATIVA. From Treviso, Italy. (Agrost. 2486.)	Alfalfa.
13744. MEDICAGO SATIVA. From Parma, Italy. (Agrost. 2487.)	Alfalfa.
13745. MEDICAGO SATIVA. From Triora, Italy. (Agrost. 2488.)	Alfalfa.
13746. TRIFOLIUM PRATENSE. From Triora, Italy. (Agrost. 2489.)	Red clover.
13747. TRIFOLIUM PRATENSE. From Verona, Italy. (Agrost. 2490.)	Red clover.
13748. TRIFOLIUM PRATENSE. From Pesaro, Italy. (Agrost. 2491.)	Red clover.
13749. TRIFOLIUM PRATENSE. From Pairo, Italy. (Agrost. 2492.)	Red clover.
13750. LOTUS CORNICULATUS. From Genoa, Italy. (Agrost. 2493.)	Bird's-foot trefoil.
13751. MEDICAGO LUPULINA. From Treviso, Italy. (Agrost. 2494.)	Yellow trefoil.
13752. TRIFOLIUM PRATENSE. From Ferrara, Italy. (Agrost. 2495.)	Red clover.
13753. MEDICAGO SATIVA. From Pisa, Italy. (Agrost. 2496.)	Alfalfa.
13754. MEDICAGO SATIVA. From Triora, Italy. (Agrost. 2497.)	Alfalfa.
13755. MEDICAGO SATIVA. From Verona, Italy. (Agrost. 2498.)	Alfalfa.

**13733 to 13794—Continued.****13733 to 13771—Continued.**

<b>13756.</b> TRIFOLIUM PRATENSE. From Treviso, Italy. (Agrost. 2499.)	<b>Red clover.</b>
<b>13757.</b> MEDICAGO SATIVA. From Milan, Italy. (Agrost. 2500.)	<b>Alfalfa.</b>
<b>13758.</b> MEDICAGO SATIVA. From Voghera, Italy. (Agrost. 2501.)	<b>Alfalfa.</b>
<b>13759.</b> MEDICAGO SATIVA. From Ales, Italy. (Agrost. 2502.)	<b>Alfalfa.</b>
<b>13760.</b> TRIFOLIUM PRATENSE. (No label.) (Agrost. 2503.)	<b>Red clover.</b>
<b>13761.</b> TRIFOLIUM PRATENSE. (No label.) (Agrost. 2504.)	<b>Red clover.</b>
<b>13762.</b> MEDICAGO DENTICULATA. From Argentina. (Agrost. 2505.)	<b>Bur clover.</b>
<b>13763.</b> TRIFOLIUM PRATENSE. From Argentina. (Agrost. 2506.)	<b>Red clover.</b>
<b>13764.</b> TRIFOLIUM INCARNATUM. From Argentina. (Agrost. 2507.)	<b>Crimson clover.</b>
<b>13765.</b> TRIFOLIUM HYBRIDUM. From Argentina. (Agrost. 2508.)	<b>Alsike.</b>
<b>13766.</b> TRIFOLIUM PRATENSE. From Argentina. (Agrost. 2509.)	<b>Red clover.</b>
<b>13767.</b> MEDICAGO SATIVA. From Argentina. (Agrost. 2510.)	<b>Alfalfa.</b>
<b>13768.</b> MEDICAGO SATIVA. From Argentina. (Agrost. 2511.)	<b>Alfalfa.</b>
<b>13769.</b> MEDICAGO SATIVA. From Argentina. (Agrost. 2512.)	<b>Alfalfa.</b>
<b>13770.</b> TRIFOLIUM PRATENSE. From Treviso, Italy. (Agrost. 2513.)	<b>Red clover.</b>
<b>13771.</b> TRIFOLIUM PRATENSE. From Italy. (Agrost. 2514.)	<b>Red clover.</b>

**13772 to 13775.**

From Reading, England. Received from Sutton & Sons, March, 1903.

<b>13772.</b> TRIFOLIUM PRATENSE PERENNE. (Agrost. 2156.)	<b>Red clover.</b>
<b>13773.</b> TRIFOLIUM REPENS PERENNE. (Agrost. 2157.)	<b>White clover.</b>
<b>13774.</b> TRIFOLIUM PRATENSE. (Agrost. 2158.)	<b>Red clover.</b>
<b>13775.</b> TRIFOLIUM HYBRIDUM. <i>Sutton's giant hybrid cow clover.</i> (Agrost. 2159.)	<b>Alsike.</b>
<b>13776.</b> TRIFOLIUM PRATENSE. From Reading, England, March 20, 1903. (Agrost. 2162.)	<b>Red clover.</b>

**13733 to 13794—Continued.**

**13777. TRIFOLIUM REPENS.** Wild white clover.  
From Dickson, Chester, England, May 5, 1903. (Agrost. 2179.)

**13778. MEDICAGO SATIVA.** Alfalfa.  
From Missouri Seed Company, 1903. (Agrost. 2180.)

**13779. VICIA FABA.** Broad bean.  
From Naples, Italy. Collected for World's Fair. (Agrost. 2417.)

**13780. VICIA FABA.** Broad bean.  
From Italy, 1904. (Agrost. 2418.)

**13781. VICIA FABA.** Broad bean.  
From Caserta, Italy, 1904. Collected for World's Fair. (Agrost. 2419.)

**13782. VICIA FABA.** Broad bean.  
From Caserta, Italy, 1904. Collected for World's Fair. (Agrost. 2420.)

**13783. VICIA FABA.** Broad bean.  
From Italy, 1904. (Agrost. 2421.)

**13784. VICIA FABA.** Horse bean.  
From Caserta, Italy, 1904. Collected for World's Fair. (Agrost. 2422.)

**13785. VICIA FABA.** Horse bean.  
From Rome, Italy, 1904. Collected for World's Fair. (Agrost. 2423.)

**13786.** (Unidentified legume.) (Agrost. 2464.)

**13787 to 13793. BRASSICA NAPUS.** Rape.  
From the Louisiana Purchase Exposition. European varieties.

**13787.** (Agrost. 2467.) **13791.** (Agrost. 2471.)

**13788.** (Agrost. 2468.) **13792.** (Agrost. 2472.)

**13789.** (Agrost. 2469.) **13793.** (Agrost. 2473.)

**13790.** (Agrost. 2470.)

**13794. ONOBRYCHIS ONOBRYCHIS.** Sainfoin.  
From Argentina. (Agrost. 2475.)

**13795. BROMUS INERMIS.** Smooth brome-grass.  
From Pueblo, Colo. Received thru Keen Bros., April, 1905.

This seed is from a good crop grown under conditions of unusual drought and high temperature. It may therefore be valuable in extending the range of this plant farther south.

**13796. VICIA ANGUSTIFOLIA (?).** Vetch.  
From Augusta, Ga. Received thru the N. L. Willet Drug Company, April, 1905.  
Said to be the most valuable vetch grown in the vicinity of Augusta, Ga.

**13797. LOLIUM BONAERENSIS.**  
From Argentina. Received from Argentine exhibit, Louisiana Purchase Exposition, spring of 1905.

**13798 to 13800.**

From Buitenzorg, Java. Presented by Doctor Treub. Received May 4, 1905.

**13798. NEPHELIUM LAPPACEUM.** Rambutan.

**13799. NEPHELIUM MUTABILE.** Kapoelasan.

**13800. GARCINIA MANGOSTANA.** Mangosteen.

**13801 and 13802.**

From London, England. Received thru James Veitch & Son, April 21, 1905.

**13801.** ACER MYABEL.

**13802.** MAGNOLIA STELLATA  
ROSEA.

**13803. AGAPANTHUS UMBELLATUS.**

From Berlin, Germany. Received thru L. Spath in 1902.

**13804. (Undetermined.)**

From Argentina. Received thru Dr. B. T. Galloway in 1902.

Seeds of a tree probably belonging to the family Myrtaceae.

**13805. HESPERALOE FUNIFERA.**

From Cerritos, Mexico. Received August, 1903. Grown under G. & G. No. 3995 and numbered in May, 1905.

"While the plant is used to a considerable extent for the production of fiber in Mexico, I think it is doubtful whether it could be used for this purpose profitably in this country with our present facilities for cleaning fiber. It is a rather striking ornamental plant, with its large open panicle of pinkish or purplish flowers, followed by pear-shaped, dark purple seed pods. I would recommend it especially for planting in dry situations in parks and in the Southern States. In the northern part of its range in Mexico it must endure winter temperatures down to zero, and if planted in well-drained soils and protected by a mulch in winter, it will doubtless survive out of doors in the parks of the Southern States." (*Dewey.*)

**13806. PSIDIUM GUAJAVA POMIFERUM.**

**Guava.**

From Argentina. Received thru Dr. B. T. Galloway in 1902. Grown under G. & G. No. 358 and numbered in May, 1905.

**13807. HIPPEASTRUM hyb.**

From Washington, D. C. Numbered May 7, 1905.

A seedling with double flowers, produced by Mr. G. W. Oliver by crossing.

**13808. CINNAMOMUM CAMPHORA.**

**Camphor.**

From Huntington, Fla. Collected by Mr. W. O. Richtmann, of Drug and Medicinal Plant Investigations, from a tree on the grounds of Dr. George E. Walker, April, 1905.

**13809 to 13818.**

From Laguna, Cal. Collected by Dr. B. T. Galloway, in the vicinity of Laguna, and sent to Mr. G. W. Oliver for use in breeding. Received May 7, 1905.

**13809.** MEDICAGO sp.

**13811.** LESPEDEZA JAPONICA.

**13810.** TRIFOLIUM sp.

**13812.** AVENA sp.

**Oat.**

"Thousands of acres of this wild oat are being harvested for hay. Good thing for hybridizing. Grown on soil with 10 inches of rain. Cuts 4 to 5 tons per acre." (*Galloway.*)

**13813.** (Undetermined.)

**Grass.**

**13814.** (Undetermined.)

**Grass.**

**13815.** (Undetermined.)

**Grass.**

**13816.** ECHINOCYSTIS sp.  
(No. 1.)

**13818.** BLOOMERIA AUREA.

**13817.** ECHINOCYSTIS sp.  
(No. 2.)



**13819 to 13851. DIOSPYROS KAKI.****Japanese persimmon.**

A collection of plants of named varieties secured for the use of Mr. G. W. Oliver in breeding work. Received in January, 1905.

**13819 to 13820.**

Received thru the P. J. Berckmans Company, Augusta, Ga.

**13819.** *Maru gata.***13820.** *Miye tan.***13821 to 13825.**

Received thru the Fancher Creek Nurseries, Fresno, Cal.

**13821.** *Dai-dai maru.***13824.** *Tsuro noko.***13822.** *Goshi gaki.***13825.** *Yemon.***13823.** *Hachiya.***13826 to 13834.**

Received thru Mr. G. L. Taber, Glen St. Mary, Fla.

**13826.** *Costata.***13831.** *Triumph.***13827.** *Okame.***13832.** *Tsuru.***13828.** *Taber's No. 23.***13833.** *Yeddo ichi.***13829.** *Taber's No. 129.***13834.** *Zengi.***13830.** *Tane nashi.***13835 to 13851.**

Received thru the Yokohama Nursery Company, Yokohama, Japan.

**13835.** *Dai-dai maru.***13844.** *Mushirazu.***13836.** *Daitsurumoko.***13845.** *Mizigaki.***13837.** *Giboshi.***13846.** *Shakumi.***13838.** *Gosho.***13847.** *Shibuyemon.***13839.** *Hachiya.***13848.** *Tane nashi.***13840.** *Kozuru.***13849.** *Zenji maru.***13841.** *Kuro kuma.***13850.** (Unnamed.)**13842.** *Mamegaki.***13851.** (Unnamed.)**13843.** *Minozuru.***13852. CEPHALARIA TATARICA.**

From New York, N. Y. Received thru J. M. Thorburn & Co., May 5, 1905.

**13853. TRIFOLIUM REPENS.****White clover.**

From Paris, France. Received thru Vilmorin-Andrieux & Co., May 6, 1905.

*White Lodino.* "This is a giant form of white clover from the Po Valley, truly perennial, hardy, tall (2 feet), recovering more quickly than other clovers after cutting. Not adapted to light, sandy, or poor soil, but gives 3 to 4 cuttings; 4 to 5 tons of hay on rich soil." (*Vilmorin-Andrieux & Co.*)

**13854 to 13856. TRITICUM DURUM.****Macaroni wheat.**

From North Platte, Nebr. Received April 29, 1905.

Macaroni wheats grown by the Nebraska Experiment Station from imported seed.

**13854.** *Yellow Gharnovka.***13856.** *Velvet Don.***13855.** *Black Don.***13857 and 13858. MEDICAGO SATIVA.****Alfalfa.**

From Paris, France. Received thru Vilmorin-Andrieux & Co., May 8, 1905.

**13857.** From Simbirsk, Russia.**13858.** From Kharkof, Russia.

**13859. ALLIUM CEPA.****Onion.**

From Paris, France. Presented by Vilmorin-Andrieux & Co. Received May 6, 1905.

*Saints Maria.* "This onion is remarkable for its great earliness. It is flat in shape, with a very fine neck, and produces, as quickly as the *White Queen* onion, marketable bulbs of a larger size than those of the latter. It seems to us that it might be a desirable variety for truck farmers in the Southern States." (Vilmorin-Andrieux & Co.)

**13860. STIPA TENACISSIMA.****Esparto grass.**

From Office of Grass and Forage Plant Investigations. Received May 9, 1905. Originally from J. M. Thorburn & Co., New York, N. Y. (Agrost. No. 2216.)

**13861. NEPHELIUM MUTABILE.****Kapoelasan.**

From Buitenzorg, Java. Presented by Doctor Treub. Received May 12, 1905.

**13862. CLITORIA TERNATEA (?)****Butterfly pea.**

From Porto Rico. Grown from seed presented by the Governor. Plants numbered May 6, 1905.

**13863. CLEMATIS DAVIDIANA.****Clematis.**

From Philadelphia, Pa. Received thru Henry A. Dreer, Incorporated, May 6, 1905.

**13864. HYDRASTIS CANADENSIS.****Golden-seal.**

From Mantua, Ohio. Received thru Mr. A. W. Russel, at the request of Mr. W. W. Stockberger, May 15, 1905. Seed for use in connection with experiments being carried on by Dr. R. H. True.

**13865 to 13924.**

From Pretoria, South Africa. Presented by Mr. G. Baylis, Division of Botany, Transvaal Department of Agriculture, thru Prof. W. J. Spillman. Received May 1, 1905.

A collection of native grass seeds as follows (the numbers in parentheses are Mr. Baylis's):

<b>13865.</b> (Natal redtop.) (239/05.)	<b>13875.</b> ERAGROSTIS sp. (250/05.)
<b>13866.</b> (Native grass.) (240/05.)	<b>13876.</b> ERAGROSTIS sp. (251/05.)
<b>13867.</b> ERAGROSTIS sp. (241/05.)	<b>13877.</b> AGROSTIS sp. (252/05.)
<b>13868.</b> ERAGROSTIS sp. (242/05.)	<b>13878.</b> CAPRIOLA DACTYLON (253/05.)
<b>13869.</b> (Native grass.) (243/05.)	<b>13879.</b> ARISTIDA sp. (254/05.)
<b>13870.</b> (Native grass.) (244/05.)	<b>13880.</b> ANDROPOGON sp. (255/05.)
<b>13871.</b> ERAGROSTIS CHLOROMELAS. (245/05.)	<b>13881.</b> ELIONURUS ARGENTENUS. (256/05.)
<b>13872.</b> (Native grass.) (247/05.)	<b>13882.</b> ANDROPOGON sp. (257/05.)
<b>13873.</b> ANDROPOGON CONTORTUS. (248/05.)	<b>13883.</b> ERAGROSTIS PLANA. (258/05.)
<b>13874.</b> (Native grass.) (249/05.)	<b>13884.</b> ERAGROSTIS LAPPULA DIVARICULA. (259/05.)
	<b>13885.</b> ERAGROSTIS sp. (260/05.)

**13865 to 13924—Continued.**

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|---|---|
| 13886. ARUNDINELLA ECKLONII.<br>(261/05.) | 13906. ERAGROSTIS sp.<br>(295/05.)                  |
| 13887. CHAETOCHLOA sp.<br>(262/05.)       | 13907. (Native grass.)<br>(296/05.)                 |
| 13888. (Native grass.)<br>(263/05.)       | 13908. (Native grass.)<br>(297/05.)                 |
| 13889. ANDROPOGON EUCOMUS.<br>(264/05.)   | 13909. (Native grass.)<br>(298/05.)                 |
| 13890. (Native grass.)<br>(265/05.)       | 13910. CHAETOCHLOA AUREA.<br>(299/05.)              |
| 13891. (Native grass.)<br>(277/05.)       | 13911. CHAETOCHLOA sp.<br>(300/05.)                 |
| 13892. ARISTIDA sp. (278/05.)             | 13912. CHAETOCHLOA NIGRIROS-<br>TRE (?) (301/05.)   |
| 13893. TRICHOLAENA ROSEA.<br>(279/05.)    | 13913. PANICUM ISACHNE.<br>(302/05.)                |
| 13894. PANICUM COLONUM.<br>(281/05.)      | 13914. CHAETOCHLOA PENNISE-<br>TUM (?) (303/05.)    |
| 13895. CHLORIS VIRGATA.<br>(282/05.)      | 13915. (Native grass.)<br>(305/05.)                 |
| 13896. ERAGROSTIS sp.<br>(285/05.)        | 13916. (Native grass.)<br>(306/05.)                 |
| 13897. ERAGROSTIS sp.<br>(286/05.)        | 13917. (Native grass.)<br>(307/05.)                 |
| 13898. (Native grass.)<br>(287/05.)       | 13918. (Native grass.)<br>(308/05.)                 |
| 13899. ARISTIDA sp. (288/05.)             | 13919. CHAETOCHLOA sp.<br>(309/05.)                 |
| 13900. ERAGROSTIS sp.<br>(289/05.)        | 13920. (Native grass.)<br>(310/05.)                 |
| 13901. CHLORIS VIRGATA.<br>(290/05.)      | 13921. ERAGROSTIS MAJOR ME-<br>GASTACHYA. (311/05.) |
| 13902. (Native grass.)<br>(291/05.)       | 13922. PANICULUM SULCATUM.<br>(312/05.)             |
| 13903. (Native grass.)<br>(292/05.)       | 13923. (Native grass.)<br>(313/05.)                 |
| 13904. ERAGROSTIS sp.<br>(293/05.)        | 13924. (Native grass.)<br>(315/05.)                 |
| 13905. (Native grass.)<br>(294/05.)       |   |

**13925 to 13946. CLEMATIS spp.****Clematis.**

From Philadelphia, Pa. Received thru Henry A. Dreer, Incorporated, May 6, 1905.

13925. CLEMATIS FLAMMULA (*Rubra marginata*).  
 13926. CLEMATIS INDIVISA.  
 13927. CLEMATIS COCCINEA.  
 13928 to 13945. CLEMATIS spp.

- |  |   |
|--|---|
| 13928. <i>Anderson Henryi</i> .            | 13932. <i>Gipsy Queen</i> .               |
| 13929. <i>Boskoop Seedling</i> .           | 13933. <i>Jackmani</i> .                  |
| 13930. <i>Fairy Queen</i> .                | 13934. <i>Jackmani Superba</i> .          |
| 13931. <i>Duchess of Edin-<br/>burgh</i> . | 13935. <i>Lilacina Flori-<br/>bunda</i> . |

**13925 to 13946—Continued.****13928 to 13945—Continued.**

<b>13936.</b>	<i>M. Koster.</i>	<b>13941.</b>	<i>The Gem.</i>
<b>13937.</b>	<i>Mme. Baron Veillard.</i>	<b>13942.</b>	<i>The President.</i>
<b>13938.</b>	<i>Mme. Van Houtte.</i>	<b>13943.</b>	<i>Countess of Omslow.</i>
<b>13939.</b>	<i>Miss Bateman.</i>	<b>13944.</b>	<i>Duchess of Albany.</i>
<b>13940.</b>	<i>Stundishi.</i>	<b>13945.</b>	<i>Duchess of York.</i>

**13946.** CLEMATIS INTEGRIFOLIA DURANDII.**13947 to 13949. PHALARIS CANARIENSIS.****Canary grass.**

From Monte, Grand Canary. Presented by Mr. Alaricus Delmard, Hotel Santa Brigada. Received April 24, 1905.

"*Phalaris canariensis*, as a matter of fact, is hardly grown in the islands and mostly comes from the Province of Alicante, in Spain. But one person grows it here, and I will forward you a packet of the seed. Again I regret that I can only discover one variety as grown here. It may have been grown as a crop for the sale of seed in former times in these islands, but certainly is so no longer. The seed I now have comes from Morocco and Buenos Aires, and also from Seville; that from the former two places costs 62 pesetas for 100 kilos, and from Seville 65 pesetas." (Delmard.)

<b>13947.</b>	Grown in Buenos Aires.	<b>13949.</b>	Grown in Monte.
<b>13948.</b>	Grown in Morocco.		

**13950 and 13951. PHALARIS spp.**

From San Giovanni a Teduccio, Italy. Received thru Danmann & Co., April 25, 1905.

<b>13950.</b>	PHALARIS CANARIENSIS.	<b>Canary grass.</b>
<b>13951.</b>	PHALARIS ARUNDINACEA.	<b>Reed canary grass.</b>

**13952 to 13966. BETA VULGARIS.****Sugar beet.**

Sugar-beet seeds planted at Fairfield, Wash., in the spring of 1905, by Mr. Joseph F. Reed, assistant in sugar-beet experiments, from selected roots.

**13952.** *Kleinwanzleben*; tested 23 per cent sugar.

Roots selected from Mr. E. H. Morrison's general stock in 1903. Seed raised in 1904.

**13953.** *Kleinwanzleben*; tested 23 per cent sugar.

Roots selected from No. 12846 (Lehi seed) in 1903. Seed raised in 1904.

**13954.** *Kleinwanzleben*; tested 22 per cent.

Roots selected from Mr. E. H. Morrison's general stock in 1903.

**13955.** *Kleinwanzleben*; tested 21 per cent.

Roots selected from Mr. E. H. Morrison's general stock in 1903.

**13956.** *Kleinwanzleben*; tested 20 per cent.

Roots selected from Mr. E. H. Morrison's general stock in 1903.

**13957.** *Kleinwanzleben*; tested 19 per cent.

Roots selected from Mr. E. H. Morrison's general stock in 1903.

**13958.** *Kleinwanzleben*; tested 19 per cent.

Roots selected from No. 12846 (Lehi seed) in 1903.

**13959.** *Kleinwanzleben*; tested 18 per cent.

Roots selected from Mr. E. H. Morrison's general stock in 1903.

**13952 to 13966—Continued.****13960.** *Kleinwanzleben*; tested 18 per cent.

Roots selected from No. 12849 (Morrison seed), 1903.

**13961.** *Kleinwanzleben*; tested 18 per cent.

Roots selected from No. 12846 (Lehi seed) in 1903.

**13962.** *Kleinwanzleben*; tested 17 per cent.

Roots selected from Mr. E. H. Morrison's general stock in 1903.

**13963.** *Kleinwanzleben*; tested 16 per cent.

Roots selected from Mr. E. H. Morrison's general stock in 1903.

**13964.** *Dippe Elite Kleinwanzleben*; tested 16 per cent.Roots selected from *Dippe Kleinwanzleben*, 1903.**13965.** *Kleinwanzleben*; tested 15 per cent.

Roots selected from Mr. E. H. Morrison's general stock in 1903.

**13966.** *Kleinwanzleben*; tested 15 per cent.

Roots selected from Mr. E. H. Morrison's general stock in 1903. The outside seed stalks were cut out, allowing more nourishment to the stalks produced from the inner or sugar rings of the beet.

**13967. CARISSA ARDUINA.****Amatungulu.**

From Cape Town, South Africa. Presented by Prof. P. MacOwan, government botanist, Department of Agriculture, Cape of Good Hope. Received April 24, 1905.

"A handsome apocynaceous shrub which may make an ornamental hedge plant in your Southern States. The glittering green of the foliage and the curious rectangular mode of branching catch the eye, but, like some other African Sepiariae, it requires the severest discipline with the shears, and, I must say, submits to it well.

"Even the Apple-of-the-Kei, now spread over the warmer world, is not more destined to the steel than is this Carissa. The flowers are borne in small umbels, brilliantly white, scented, and succeeded by lots of scarlet ovoid fruits, the beloved 'num-nums' of natives and kids generally. I hope you will push it into notice among amateurs. They can make cones or pyramids of it, if they like, in the antique topiary fashion." (*MacOwan.*)

**13968 to 13975.**

From Pretoria, Transvaal, South Africa. Presented by Prof. J. Burt Davy, government agrostologist and botanist, Transvaal Department of Agriculture. Received May 15, 1905.

"Small samples of local varieties of wheat, oats, Nepaul barley, and maize. For your guidance in their disposal I may say that this is a region of hot days and cool nights (frosts in winter), with summer rains, and a long, cool, rainless winter. The rainfall runs from 20 to 30 inches, but is discounted by six or seven months of practical drought." (*Davy.*)

**13968.** AVENA sp.

Oat.

*Boer.* (283/05.)**13969.** HORDEUM sp.

Barley.

*Tibet.* (217/05.)**13970.** ZEA MAYS.

Corn.

*Egyptian.* (990/04.)**13971.** ZEA MAYS.

Corn.

*North American.* (992/04.)



**13968 to 13975—Continued.**

<b>13972.</b>	<i>ZEA MAYS.</i> <i>White Botan Mealie.</i> (694.04.)	<b>Corn.</b>
<b>13973.</b>	<i>TRITICUM VULGARE.</i> <i>Klein Koren.</i> (284.05.)	<b>Wheat.</b>
<b>13974.</b>	<i>TRITICUM VULGARE.</i> <i>Tibet.</i> (216.05.)	<b>Wheat.</b>
<b>13975.</b>	<i>TRITICUM VULGARE.</i> <i>Wol Koorn.</i> (498.04.)	<b>Wheat.</b>

**13976 to 13985. BERBERIS sp.****Barberry.**

From St. Petersburg, Russia. Presented by Messrs. Regel and Kesselring, of the Royal Botanical Gardens. Received May 11, 1905.

<b>13976.</b>	<i>BERBERIS SINENSIS.</i>	<b>13982.</b>	<i>BERBERIS VULGARIS</i> <i>EMARGINATA.</i>
<b>13977.</b>	<i>BERBERIS THUNBERGII</i> <i>MAXIMOWICZI.</i>	<b>13983.</b>	<i>BERBERIS VULGARIS MA-</i> <i>CROCARPA.</i>
<b>13978.</b>	<i>BERBERIS THUNBERGII.</i>	<b>13984.</b>	<i>BERBERIS VULGARIS PUR-</i> <i>PUREA.</i>
<b>13979.</b>	<i>BERBERIS VULGARIS.</i>	<b>13985.</b>	<i>BERBERIS VULGARIS SPA-</i> <i>THULATA.</i>
<b>13980.</b>	<i>BERBERIS VULGARIS SUL-</i> <i>CATA.</i>		
<b>13981.</b>	<i>BERBERIS VULGARIS</i> <i>AURENSIS.</i>		

**13986 to 13988.**

From Buitenzorg, Java. Received thru Doctor Treub, May 20, 1905.

<b>13986.</b>	<i>LANSIUM DOMESTICUM.</i>	<b>Doekoe.</b>
<b>13987.</b>	<i>GARCINIA MANGOSTANA.</i>	<b>Mangosteen.</b>
<b>13988.</b>	<i>NEPHELIUM MUTABILE.</i>	<b>Kapoelasan.</b>

**13989 to 13992.**

From New York, N. Y. Received thru J. M. Thorburn & Co., May 12, 1905.

<b>13989.</b>	<i>HEDYSARUM CORONARIUM.</i>	<b>Sulla.</b>
<b>13990.</b>	<i>ORNITHOPUS SATIVUS.</i>	<b>Serradella.</b>
<b>13991.</b>	<i>ONOBRYCHIS ONOBRYCHIS.</i>	<b>Sainfoin.</b>
<b>13992.</b>	<i>PISUM ARVENSE.</i>	<b>Canada field pea.</b>

**13993 to 13998.**

From Westbury Station, Nassau County, N. Y. Received thru Isaac Hicks & Son, May 25, 1905.

Ornamental plants as follows:

<b>13993.</b>	<i>ACER CARPINIFOLIUM.</i>	<b>13996.</b>	<i>VIBURNUM DILATATUM.</i>
<b>13994.</b>	<i>CORNUS MACROPHYLLA.</i>	<b>13997.</b>	<i>QUERCUS CUSPIDATA.</i>
<b>13995.</b>	<i>CORNUS MACROPHYLLA.</i>	<b>13998.</b>	<i>STUARTIA PSEUDO-</i> <i>CAMELLIA.</i>

**13999. MEDICAGO SATIVA.****Alfalfa.**

From Ogden, Utah. Received thru Mr. P. A. Nebeker, May 23, 1905.

*Turkistan* alfalfa, grown on unirrigated land from imported seed (probably S. P. I. No. 991) furnished Mr. Nebeker in 1900.

**14000 to 14005. GLADIOLUS spp.****Gladiolus.**

From New York, N. Y. Received from Mr. W. Van Fleet, April 5, 1905.

**14000.** GLADIOLUS CRUENTUS.

**14003.** GLADIOLUS PSITTACINUS.

**14001.** GLADIOLUS PURPUREO-AURATUS.

**14004.** GLADIOLUS SAUNDERSII.

**14002.** GLADIOLUS DRACOCOPHALUS.

**14005.** GLADIOLUS LEICHTLINI.

**14006 to 14072. GLADIOLUS spp.****Gladiolus.**

From Floral Park, N. Y. Received thru Mr. John Lewis Childs, April 8, 1905.

**14006 to 14034.** GLADIOLUS CHILDSII.

**14062 to 14072.** GLADIOLUS LEMOINEI.

**14035 to 14061.** GLADIOLUS GANDAVENSIS.

**14073 to 14087. GLADIOLUS spp.****Gladiolus.**

From Berlin, N. Y. Received thru Mr. Arthur Cowee, April 12, 1905.

**14088 to 14155. GLADIOLUS spp.****Gladiolus.**

From Nancy, France. Received thru V. Lemoine & Son, May 4, 1905.

**14156 to 14259. GLADIOLUS spp.****Gladiolus.**

From Paris, France. Received thru Vilmorin-Andrieux & Co., May 10, 1905.

**14260 to 14267. GLADIOLUS spp.****Gladiolus.**

From Erfurt, Germany. Received thru Haage & Schmidt, May 10, 1905.

**14268 to 14412. GLADIOLUS spp.****Gladiolus.**

From Somerset, England. Received thru Kelway & Sons, Langport, May 12, 1905.

(See the circular of the Bureau of Plant Industry entitled "A Variety Collection of Gladiolus," 1905.)

**14413 to 14418.**

From Sultepec, Mexico. Presented by Mr. Federico Chisolm. Received May 12, 1905.

A small collection of unidentified plants.

**14419. TULIPA sp.****Tulip.**

From Dedham, Mass. Received thru Mr. A. W. Cheever, August 25, 1905.

**14420 and 14421. NICOTIANA TABACUM.****Tobacco.**

From Sao Paulo, Brazil. Presented by Dr. H. M. Lane, Mackenzie College. Received May 25, 1905.

**14420.** *Fumo Creolo*. Seed from near Cotia, State of Sao Paulo, Brazil.

**14421.** Seed from Pirassununga, State of Sao Paulo, Brazil.

**14422 to 14431.**

From Honolulu, Hawaii. Presented by Mr. Ralph S. Hosmer, superintendent of forestry, Hawaiian Bureau of Agriculture and Forestry. Received May 31, 1905.

**14422.** RAUWOLFIA SANDWINCENSIS.

Native name *Hao*. A small, milky tree.

**14422 to 14431—Continued.****14423. CHEIRODENDRON GAUDICHAUDII.**

Native name *Olapa*. A tree 30 to 50 feet high. The natives prepare a blue dye from the bark and leaves.

**14424. MARA SANDWICENSIS.**

Native name *Lama*. Grows to a height of from 20 to 40 feet.

**14425. CAESALPINIA KAUAIENSIS.**

Native name *Uhihi*. A low shrub 3 to 4 feet.

**14426. ERYTHRINA MONOSPERMA.**

Native name *Wiliwili*. An ornamental tree 20 to 25 feet high, with short, thick trunk and spreading crown. The tree loses its leaves in late summer, and in the spring before the new leaves are out scarlet flowers appear. The wood is soft and corklike.

**14427. DRACAENA AUREA.**

Native name *Holapepe*. A glabrous tree 20 to 25 feet high, from the wood of which the natives used to carve their idols.

**14428. MYRSINE LASSERTIANA.**

Native name *Kolea*. A tree 20 to 50 feet high. The natives used to extract a red dye from the bark.

**14429. ALPHITONIA PONDEROSA.**

Native name *Kauwila*. A tall tree, often attaining 50 to 83 feet. The wood is remarkable for close grain, hardness, and heavy weight, on which account the natives preferred it for making spears, mallets for beating kapa, and other tools; turns black with age.

**14430. DODONAEA VISCOSA.**

Native name *Aalii*.

**14431. MYOPORUM SANDWICENSIS.**

"Native name *Nao*. English name 'bastard sandalwood.' Tree 20 to 30 feet high. The wood of this tree, most so the roots, becomes fragrant on drying, with an odor resembling that of sandalwood, whence its English name. After the exhaustion of the true sandalwood it was exported for some time to China as a substitute." (*Hillebrand*.)

**14432. GERBERA JAMESONI.****Barberton daisy.**

From Lourenço Marquez, East Africa. Presented by Mr. A. E. Graham-Lawrence, thru Hon. W. Stanley Hollis, United States consul. Received July 14, 1905.

**14433. (Undetermined.)****"Lemoncito."**

From Manila, P. I. Received thru Capt. George P. Ahern, chief of the Bureau of Forestry, Manila Bureau of Agriculture, July 17, 1905.

"This is a small plant, the height of which does not exceed one and one-half of that of a man, and is known only by the name of 'lemoncito.' It usually has about five very leafy branches. Its trunk is nearly 20 centimeters in diameter, of a light-yellow color, with blackish spots hardly perceptible, and of a fine fibrous texture. It is not very well known by the common people. Its branches are slender and produce leaves in groups of three, the middle one being the largest; in the growth of the leaves are found thorns somewhat pronounced; the groups of leaves are arranged in alternating order on either side of the branch up to the end. Its trunk has no odor, but its fruit has an agreeable odor somewhat like maraschino. They appear between the groups of leaves at the time of opening of the calyx of a flower from which they come, and are sometimes found in clusters and sometimes single. In the month of May this plant produces fruit in abundance and they ripen in a few days.

They have an oval form with a pronounced fiery color, are aromatic and edible with a somewhat acrid yet sweet taste.

"Commonly people who have lemonsito trees make sirup from the ripened fruit and also preserve them." (*Ahern.*)

#### 14434 to 14463.

From Mexico. Secured by Prof. P. H. Rolfs, in charge of the Subtropical Laboratory, Miami, Fla., while traveling in Mexico as agricultural explorer of the Office of Seed and Plant Introduction in April, May, and June, 1905.

##### 14434. PRUNUS sp.

"*Ceruella.*"

"A form of native *Prunus*, resembling the peach in color, about the size of a Jamson plum. Secured at Jalapa, Mexico. This plum grows in that neighborhood; consequently it is possible that seedlings from it will be able to maintain themselves in extreme southern Florida and Porto Rico. (Lab. No. 289.)" (*Rolfs.*)

##### 14435. PERSEA GRATISSIMA.

Avocado.

"A small quantity of bud wood secured from a tree that blooms in January and ripens fruit in May. The special value of this particular tree lies in the fact that it ripens in so short a time after blooming. The fruit, altho delicious and otherwise good, is too small to prove of value on the market. Its special value, however, lies in the fact that when it comes into bearing it can be used for hybridizing with the early forms that do have marketable fruit, and consequently the introduction is very desirable. (Lab. No. 295.)" (*Rolfs.*)

##### 14436. CUCURBITA sp.

Squash.

"This is a peculiar native (?) squash that is grown to some extent for the market, and it is possible that it would be of use in the Southern States for a summer vegetable on account of its extremely hard outer skin. (Lab. No. 296.)" (*Rolfs.*)

##### 14437. CAESALPINIA sp.

"This is a flowering shrub found at Papantla, State of Vera Cruz. It resembles to some extent a plant already grown in Florida and known as the dwarf *Poinciana* (*Caesalpinia pulcherrima*). It differs from this, however, in producing a much greater abundance of flowers and growing about twice the height. It is a distinct species from that mentioned. (Lab. No. 297.)" (*Rolfs.*)

##### 14438. FICUS sp.

"A number of ripe fruits of this tree were secured from the public garden at Papantla. The fruits are about the size of black walnuts, and are inedible, tho not of unpleasant flavor; but the tree is very decorative. In general character of the tree and look of the leaves, this species would classify near *Ficus carica*. (Lab. No. 298.)" (*Rolfs.*)

##### 14439. HIBISCUS sp.

"An *Hibiscus* that appears to be a native, bearing a very dark maroon-colored bloom. Quite showy and striking. (Lab. No. 299.)" (*Rolfs.*)

##### 14440. VANILLA sp.

"*Pompon.*"

"This species is a very strong-growing vanilla. Produces the largest pods and in considerable quantity. Secured near Papantla, Vera Cruz. (Lab. No. 308.)" (*Rolfs.*)

##### 14441. VANILLA PLANIFOLIA (?).

Vanilla.

"This number appears to be the true *V. planifolia*, but could not be identified. It, however, is one of the vanilla-producing species. (Lab. No. 309.)" (*Rolfs.*)

##### 14442. VANILLA PLANIFOLIA.

Vanilla.

"This was secured from a vanillary some 10 or 12 miles from Papantla. It is probably the true *V. planifolia*. It is from this species that most of the commercial material is produced in this section. (Lab. No. 310.)" (*Rolfs.*)

## 14434 to 14463—Continued.

14443. *VANILLA* sp.**Vanilla.**

"The exact status of this number can not be learned until the flowers and fruit shall have been studied. It is, however, not *V. planifolia*. (Lab. No. 311.)" (Rofls.)

14444. *VANILLA* sp.**Vanilla.**

"This is rather a weak-growing species of the vanilla genus, but I have been told that it produces beans of unusual strength. Secured on the Isthmus of Tehuantepec. (Lab. No. 312.)" (Rofls.)

14445. *VANILLA* sp.**Vanilla.**

"This is a very narrow-leaved species. It is not a vigorous grower, but is said to be of considerable value. Secured on the Isthmus of Tehuantepec. (Lab. No. 313.)" (Rofls.)

14446. *VANILLA* sp.**Vanilla.**

"Quite similar to 313 and may prove to be the same species, but in the field it showed considerable difference, due to the place where it was growing. Secured on the Isthmus of Tehuantepec. (Lab. No. 314.)" (Rofls.)

14447. *BAMBUA VULGARIS* (?).**Bamboo.**

"This gigantic-growing bamboo was seen all along the way from a few miles below Teziutlan to Papantla. It has become rather thoroly established, and would appear to be a native of this region. A small quantity of good seed was obtained from fruiting specimens. (Lab. No. 316.)" (Rofls.)

14448. *MANGIFERA INDICA*.**Mango.**

"Seed of what is commonly called *Manila* mango. This is probably the same mango that is called the *Philippine* mango in Cuba. Very little fiber. Fruit very long, about 5 inches, sometimes longer than this, about 3 inches broad at its broadest, about 1½ to 2 inches thick. Delicious flavor, free from turpentine, and the best varieties can be eaten with a spoon, it being possible to cut the fiber with an ordinary teaspoon. (Lab. No. 317.)" (Rofls.)

14449. *CARICA PAPAYA*.**Papaw.**

"A very handsome specimen of this fruit was purchased for the seed. (Lab. No. 318.)" (Rofls.)

14450. *CASTILLA ELASTICA*.**Rubber.**

(Lab. No. 319.)

14451. *LYCOPERSICON ESCULENTUM*.**Tomato.**

"A small tomato, which is said to be a native of Mexico and one that occurs very commonly, especially on the Isthmus of Tehuantepec. (Lab. No. 320.)" (Rofls.)

14452. *ANANAS SATIVUS*.**Pineapple.**

"Known as the *Guatemala Spineless White*. This variety has a number of points that would commend it for our use—spineless, ripens early, is delicious, and apparently a good shipper. (Lab. No. 323.)" (Rofls.)

14453. *CICER ARIETINUM*.**Chick-pea.**

"This is a legume which in some respects resembles the English pea, and is used very largely in preparing soups and dishes of that kind. It is not generally used in this country, but if it should prove to do well the Spanish market would use all that could be furnished for some time. (Lab. No. 327.)" (Rofls.)

14454. *CASIMIROA EDULIS*.**White sapota.**

(Lab. No. 328.)

14455.

**"Haba."**

"A legume to be found on most of the markets. (Lab. No. 329.)" (Rofls.)



**14434 to 14463—Continued.****14456. PRUNUS sp.****“Ceruella.”**

“This species is said to be a native of Mexico and to grow very luxuriantly in the regions where oranges are produced. If this could be grown in Florida and Porto Rico it would be a very desirable acquisition. (Lab. No. 331.)” (Rofls.)

**14457. MUSA ENSETE.**

“Seed secured in Mexico City. (Lab. No. 332.)” (Rofls.)

**14458. BACTRIS MAJOR.****Palm.**

“Very ornamental palm from the Isthmus of Tehuantepec. (Lab. No. 333.)” (Rofls.)

**14459. ZEA MAYS.****Corn.**

“Corn that grows along the Isthmus of Tehuantepec. It has some qualities that may adapt it for growth in the extreme southern part of the United States. (Lab. No. 334.)” (Rofls.)

**14460.****“Haba.”**

“Seed of another species of legume, which occurs commonly on the various markets in Cuba. (Lab. No. 335.)” (Rofls.)

**14461.****“Bayo.”**

“Seed of another legume. Secured in the Vera Cruz market. (Lab. No. 337.)” (Rofls.)

**14462. ERVUM LENS.****Lentil.**

“Appears to be a lentil, as grown in Europe. Secured in the Vera Cruz market. (Lab. No. 338.)” (Rofls.)

**14463.**

“Seed of the tree referred to under ‘No. 295.’ (Lab. No. 339.)” (Rofls.)

**14464. CINNAMOMUM CAMPHORA.****Camphor.**

This number (14464) was assigned to camphor plants distributed by Mr. E. M. Byrnes, superintendent of gardens and grounds, in order to keep a record of the distribution.

The seeds from which the plants were grown came from various sources.

**14465. ZEA MAYS.****Corn.**

From Houston, Tex. Received thru Dr. S. A. Knapp, July 14, 1905.

*Laguna.* Secured by Doctor Knapp from Mexico. “This is a new variety. Was grown in Texas. In the latitude of north Texas this could be planted as late as the first of August.” (Knapp.)

**14466. TRIFOLIUM INCARNATUM.****Crimson clover.**

From Richmond, Va. Received thru T. W. Wood & Son, July 20, 1905.

Late.

**14467. VICIA VILLOSA.****Hairy vetch.**

From Richmond, Va. Received thru T. W. Wood & Son, July 20, 1905.

**14468. VICIA FABA.****Horse bean.**

From Montreal, Canada. Received thru William Ewing & Co., July 20, 1905.

**14469. GOSSYPIUM sp.****Cotton.**

From Chicago, Ill. Received thru Mr. I. L. Hauser (?), 225 Dearborn street, July 17, 1905.

**14470. ERAGROSTIS ABYSSINICA.****Teff.**

From San Giovanni a Teduccio, near Naples, Italy. Received thru Dammann & Co., July 21, 1905.

**14471. XANTHOSOMA SAGITTIFOLIUM.****Yautia.**

From Mayaguez, P. R. Received from the Agricultural Experiment Station, July 24, 1905.

"This variety is in many respects the best of all the yautias cultivated in tropical America. It yields 3 to 5 pounds to the hill, and can be grown on a great variety of soils. It requires about ten months to mature.

"This variety is known as '*Roliza*' in Porto Rico. It is also grown in Trinidad, Venezuela, and Belize, British Honduras. The fresh roots contain 20 per cent to 28 per cent of starch, with very little fiber. 'No. 1,' of P. R. Exp. Station." (*Barrett*.)

**14472 and 14473.**

From Manila, P. I. Received thru Capt. George P. Ahern, chief of the Bureau of Forestry, July 24, 1905.

**14472. ORANIA PHILIPPINENSIS.****Palm.**

"A palm indigenous to the Philippine Islands." (*Ahern*)

**14473. PANDANUS LUZONENSIS.**

"A plant indigenous to the Philippine Islands, found at elevations up to 600 meters above sea level. Apparently closely related to *Pandanus sylvestris* Bory, from the island of Reunion, differing in its larger size, longer leaves, etc. Described in Bulletin No. 17, Bureau of Government Laboratories, Manila, P. I., 'New or Noteworthy Philippine Plants, II,' by Botanist Elmer D. Merrill." (*Ahern*.)

**14474. VIGNA SINENSIS.****Cowpea.**

From Grovetown, Ga. Received thru Mr. W. W. Hamilton, July 26, 1905.

**14475. SOLANUM COMMERSONI.****Aquatic potato.**

From Montevideo, Uruguay. Received thru Dr. J. Clyde Macartney, July 25, 1905.

**14476. OPUNTIA sp.****Prickly pear.**

This number (14476) was assigned to about 500 seedling cacti sent by Mr. Luther Burlank, Santa Rosa, Cal., to Dr. S. A. Knapp, San Antonio, Tex., for planting on the Government demonstration farm.

**14477 to 14479.**

From City of Mexico, Mexico. Received thru Dr. J. N. Rose, of the United States National Museum, July 28, 1905.

A collection of unidentified plants.

**14480. IPOMOEA BATATAS (?).****Dahomey sweet potato.**

From Bordeaux, France. Received thru Hon. Albion W. Tourgee, United States consul, July 31, 1905.

This plant "is a native of Dahomey and very prolific. The leaves of the plant can be used as a substitute for spinach, and the tubers, containing a higher percentage of sugar than beets, are fine flavored and make exceptionally good food for live stock." (*Tourgee*.)

**14481. LILIUM LONGIFLORUM EXIMEUM.****Easter lily.**

From Washington, D. C. Received July 31, 1905. Selected bulbs grown in the Department greenhouses.

**14482. JUNCUS EFFUSUS.****Matting rush.**

From California. Collected under the direction of Prof. A. V. Stuebenrauch.  
Roots secured from California marshes for work on the matting-rush industry.

**14483. CYPERUS sp.**

From Kobe, Japan. Received thru Mr. A. G. Boyer, at North Galveston, Tex.,  
April, 1904.

**14484 and 14485. CAPSICUM ANNUUM.****Pepper.**

From Malaga, Spain. Received thru Hon. D. R. Birch, United States consul,  
July 31, 1905.

**14484. Chile.****14485. Large red sweet coin.**

"This pepper is the most common variety on sale here, and the fruits are usually  
about 8 inches in length." (*Birch*.)

**14486. SCHOENOCAULON OFFICINALE (?)****"Cebadilla."**

From San Luis Potosi, Mexico. Received thru Dr. Edward Palmer from  
Dr. Gregorio Borroeta, July 31, 1905.

An insecticide wash for cattle infected with ticks is said to be prepared from these  
plants. Related to the fly-killer (*Amiranthium muscaetoxicum*) and to the green  
hellebore (*Veratrum*). Imported for experiments in Cuba.

**14487. PRUNUS SIBIRICA.****Siberian apricot.**

From Jamaica Plain, Mass. Received thru the Arnold Arboretum, July 28,  
1905.

This variety is said to be perfectly hardy in Massachusetts.

**14488. BIDENS HETEROPHYLLA.****"Malpe" tea.**

From Guadalajara, Mexico. Received thru Mr. Federico Chisolm, August 1,  
1905.

"A great part of the stuff sold as 'tea' in Mexico is the rolled leaves of this plant."  
(*Chisolm*.)

**14489. (Undetermined.)**

From Tacoma, Wash. Presented by Gen. William G. Le Duc. Received July  
27, 1905.

"Plant said to be used by the Indians as a cure for 'mountain fever;' fruits are  
edible." (*Le Duc*.)

**14490. SOLANUM TUBEROSUM.****Potato.**

From Edinburgh, Scotland. Secured by Prof. L. R. Jones, of the Vermont  
Experiment Station, from T. A. Scarlett, and sent direct to Burlington, Vt.

*El Dorado*. "A potato that is of peculiar prominence for disease resistance. In  
1904 speculation forced the price as high as \$16 a pound." (*Jones*.) (See No. 13034.)

**14491. NARCISSUS POETICUS ALBA fl. pl.**

From Edinburgh, Scotland. Received thru the Royal Botanical Gardens,  
August 7, 1905.

**14492. PANICUM MAXIMUM.****Guinea grass.**

From Australia. Received thru J. M. Thorburn & Co., New York, N. Y.,  
May 25, 1905.

**14493 to 14497.**

From Paris, France. Received thru Vilmorin-Andrieux & Co., May 26, 1905.

Clover and alfalfa seeds:

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|-------------------------------------|------------------------|
| <b>14493.</b> TRIFOLIUM PRATENSE.   | <b>Red clover.</b>     |
| <i>Trefle, violet de Russie.</i>    |                        |
| <b>14494.</b> TRIFOLIUM INCARNATUM. | <b>Crimson clover.</b> |
| <i>Trefle, incarnat de Russie.</i>  |                        |
| <b>14495.</b> TRIFOLIUM REPENS.     | <b>White clover.</b>   |
| <i>Trefle, blanc de Russie.</i>     |                        |
| <b>14496.</b> MEDICAGO SATIVA.      | <b>Alfalfa.</b>        |
| <i>Luzerne de Pensa (Simbirsk).</i> |                        |
| <b>14497.</b> MEDICAGO SATIVA.      | <b>Alfalfa.</b>        |
| <i>Luzerne de Charkow.</i>          |                        |

**14498. PERSEA INDICA.**

From Monte, Grand Canary. Presented by Mr. Alaricus Delmard. Received June 1, 1905.

Seeds from Teneriffe. "Procured for the purpose of growing stocks upon which to graft seedling avocado (*Persea gratissima*) for planting in localities which require a more hardy stock than the latter." (Fairchild.)

**14499. VIGNA SINENSIS.**

**Cowpea.**

From Richmond, Va. Received thru T. W. Wood & Sons, June 1, 1905.

*Wonderful.*

**14500 to 14775. ANDROPOGON SORGHUM.**

**Sorghum.**

From Bombay Presidency, India. Received by the Office of Grass and Forage Plant Investigations, April 27, 1903, from Hon. J. W. Mollison, Inspector-General of Agriculture in India. Turned over to the Office of Seed and Plant Introduction and numbered in the spring of 1905.

A collection of sorghums obtained from Surat Farm, Bombay Presidency.

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|--|--------------------------------------|
| <b>14500.</b> <i>Dhavra</i> (A).       | <b>14516.</b> <i>Gare Nasik.</i>     |
| <b>14501.</b> <i>Kar Juar.</i>         | <b>14517.</b> <i>Akada</i> (B).      |
| <b>14502.</b> <i>Garia Yellow.</i>     | <b>14518.</b> <i>Akada</i> (C).      |
| <b>14503.</b> <i>Ellichpuri.</i>       | <b>14519.</b> <i>Gangad.</i>         |
| <b>14504.</b> <i>Gare.</i>             | <b>14520.</b> <i>Garia Dhavra.</i>   |
| <b>14505.</b> <i>Akada.</i>            | <b>14521.</b> <i>Akada</i> (D).      |
| <b>14506.</b> <i>Garia Yellow</i> (A). | <b>14522.</b> <i>Garathi.</i>        |
| <b>14507.</b> <i>Yellaspuri.</i>       | <b>14523.</b> <i>Nihva Khandesh.</i> |
| <b>14508.</b> <i>Kalbondi.</i>         | <b>14524.</b> <i>Bile Juar.</i>      |
| <b>14509.</b> <i>Dhavra.</i>           | <b>14525.</b> <i>Kondal.</i>         |
| <b>14510.</b> (Variety from Sampgaon.) | <b>14526.</b> <i>Gari.</i>           |
| <b>14511.</b> <i>Akada</i> (A).        | <b>14527.</b> <i>Gudhagi.</i>        |
| <b>14512.</b> <i>Sadagar.</i>          | <b>14528.</b> <i>Dukri.</i>          |
| <b>14513.</b> <i>Kar Juar</i> (A).     | <b>14529.</b> <i>Juari.</i>          |
| <b>14514.</b> <i>Patasi.</i>           | <b>14530.</b> <i>Dakshni.</i>        |
| <b>14515.</b> <i>Nirmali.</i>          | <b>14531.</b> <i>Mergar</i> (B).     |
|  | <b>14532.</b> <i>Kar Juar</i> (B).   |

## 14500 to 14775—Continued.

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|------------------------------------|------------------------------------|
| 14533. <i>Akada.</i>               | 14576. <i>Bani.</i>                |
| 14534. <i>Mergari.</i>             | 14577. <i>Pawana Nadi.</i>         |
| 14535. <i>Meldani.</i>             | 14578. <i>Baidra (A).</i>          |
| 14536. <i>Fulgar (A).</i>          | 14579. <i>Lal Gunja.</i>           |
| 14537. <i>Nadi.</i>                | 14580. <i>Patasi Juar.</i>         |
| 14538. <i>Jowala.</i>              | 14581. <i>Motichur.</i>            |
| 14539. <i>Akada (E).</i>           | 14582. <i>Sholapuri.</i>           |
| 14540. <i>Adola.</i>               | 14583. <i>Nadyal.</i>              |
| 14541. <i>Bile Juar (A).</i>       | 14584. <i>Juari.</i>               |
| 14542. <i>Akada Khandesh.</i>      | 14585. <i>White Dumraon.</i>       |
| 14543. <i>Garia or Dhavla.</i>     | 14586. <i>Gumeri.</i>              |
| 14544. <i>Kondi.</i>               | 14587. <i>Dukri.</i>               |
| 14545. <i>Rati.</i>                | 14588. <i>Durga.</i>               |
| 14546. <i>Gid-Gidempu.</i>         | 14589. <i>Bana of Jalaon.</i>      |
| 14547. <i>Fulgar Karaji.</i>       | 14590. <i>Bhanna of Jhansi.</i>    |
| 14548. <i>Mumtnigal.</i>           | 14591. <i>Lal.</i>                 |
| 14549. (Sampgaon variety<br>No. 2) | 14592. <i>Jharloo.</i>             |
| 14550. <i>Pandharpuri Ramker.</i>  | 14593. <i>Doliya.</i>              |
| 14551. <i>Deola.</i>               | 14594. <i>Bania.</i>               |
| 14552. <i>Saphet.</i>              | 14595. <i>Laliya.</i>              |
| 14553. <i>Lawhi.</i>               | 14596. <i>Supeta.</i>              |
| 14554. <i>Ha'di.</i>               | 14597. <i>Kombrai.</i>             |
| 14555. <i>Pivali Wani.</i>         | 14598. <i>Pyaria Iksari Banda.</i> |
| 14556. <i>Narli Wani.</i>          | 14599. <i>Iksari Banda.</i>        |
| 14557. <i>Ushira.</i>              | 14600. <i>Pyaria.</i>              |
| 14558. <i>Kalbondi.</i>            | 14601. <i>Safed Dupla Banda.</i>   |
| 14559. <i>Edna.</i>                | 14602. <i>Alapuri.</i>             |
| 14560. <i>Dudhawani.</i>           | 14603. <i>Dukari.</i>              |
| 14561. <i>Charoli Wani.</i>        | 14604. <i>Dugadia Zard.</i>        |
| 14562. <i>Dukri or Talap.</i>      | 14605. <i>Ikdani.</i>              |
| 14563. <i>Daner.</i>               | 14606. <i>Purbi Magha.</i>         |
| 14564. <i>Bansmati.</i>            | 14607. <i>Country White.</i>       |
| 14565. <i>Lokhamdi.</i>            | 14608. <i>Gugadia Safed.</i>       |
| 14566. <i>Deolari.</i>             | 14609. <i>Jogia.</i>               |
| 14567. <i>Argar.</i>               | 14610. <i>Domni.</i>               |
| 14568. <i>Bagle or Supte.</i>      | 14611. <i>Chatka.</i>              |
| 14569. <i>Ringna.</i>              | 14612. <i>Bangra.</i>              |
| 14570. <i>Motichur.</i>            | 14613. <i>Lallu.</i>               |
| 14571. <i>Badgonda.</i>            | 14614. <i>Bedaer.</i>              |
| 14572. <i>Baidria.</i>             | 14615. <i>Gugadia.</i>             |
| 14573. <i>Deola (A).</i>           | 14616. <i>Gogla.</i>               |
| 14574. <i>Ganer.</i>               | 14617. <i>Purbi Murabad.</i>       |
| 14575. <i>Mohwani.</i>             | 14618. <i>Deshi.</i>               |
|                                    | 14619. <i>Ganga Jamni.</i>         |



## 14500 to 14775—Continued.

14620.	<i>Jamnapuri.</i>	14664.	<i>Baswanpad.</i>
14621.	<i>Juar of Bijnore.</i>	14665.	<i>Shedgar.</i>
14622.	<i>Bannia Dadri.</i>	14666.	<i>Shalu.</i>
14623.	<i>Pirbahi Lucknow.</i>	14667.	<i>Makchandri.</i>
14624.	<i>Pirbahi Unao.</i>	14668.	<i>Holgi.</i>
14625.	<i>Dadri of Unao.</i>	14669.	<i>Hundi.</i>
14626.	<i>Red of Ajangarh.</i>	14670.	<i>Zamli.</i>
14627.	<i>Bannia.</i>	14671.	<i>Kagi Moti.</i>
14628.	<i>Jhalaria.</i>	14672.	<i>Mangar.</i>
14629.	<i>Paundia.</i>	14673.	<i>Kalbondi.</i>
14630.	<i>Dudhia.</i>	14674.	<i>Duhar Maski.</i>
14631.	<i>Jhangaria.</i>	14675.	<i>Bendri.</i>
14632.	<i>Jhalria.</i>	14676.	<i>Guldhari.</i>
14633.	<i>Bannia of Sitapur.</i>	14677.	<i>Lakdi.</i>
14634.	<i>Pabaria.</i>	14678.	<i>Shalu.</i>
14635.	<i>White of Ray Bareilly.</i>	14679.	<i>Nilwa.</i>
14636.	<i>Natra.</i>	14680.	<i>Gola.</i>
14637.	<i>Lagwa.</i>	14681.	<i>Nirwati.</i>
14638.	<i>Red.</i>	14682.	<i>Gari.</i>
14639.	<i>White.</i>	14683.	<i>Ellichpuri.</i>
14640.	<i>Mailki.</i>	14684.	<i>Khondi Chandor.</i>
14641.	<i>Ganga Jali.</i>	14685.	<i>Lakadia Juar.</i>
14642.	<i>Dudghiya.</i>	14686.	<i>Dukri.</i>
14643.	<i>Nerio Perio.</i>	14687.	<i>Dadar.</i>
14644.	<i>Bannia of Curnpur.</i>	14688.	<i>Khonde Malegaon.</i>
14645.	<i>Nandiyal.</i>	14689.	<i>Shalu.</i>
14646.	<i>Kahgar.</i>	14690.	<i>Lagwa (A).</i>
14647.	<i>Lohor.</i>	14691.	<i>Dagdi.</i>
14648.	<i>Yennigar.</i>	14692.	<i>Red (erect-headed of No. 14638).</i>
14649.	<i>Mamulpuri Gidd.</i>	14693.	<i>Juar Nandgaon.</i>
14650.	<i>Vilayati or Kempugidd.</i>	14694.	<i>Shalu.</i>
14651.	<i>Kalia Gondicha Vilayati.</i>	14695.	<i>Argad.</i>
14652.	<i>Mud Shedgar.</i>	14696.	<i>Dukri.</i>
14653.	<i>Khabba Shedgar.</i>	14697.	<i>Hundi.</i>
14654.	<i>Vibhuti Gund.</i>	14698.	<i>Gidd-Gapp.</i>
14655.	<i>Kala Gund.</i>	14699.	<i>Waradi Juar.</i>
14656.	<i>Moti Jondhala.</i>	14700.	<i>Hundi.</i>
14657.	<i>Paramsati.</i>	14701.	<i>Jondhala.</i>
14658.	<i>Udda Maldani.</i>	14702.	<i>Maldani.</i>
14659.	<i>Gidd Maldani.</i>	14703.	<i>Tambdi.</i>
14660.	<i>Bilegar.</i>	14704.	<i>Gudadi.</i>
14661.	<i>Gund.</i>	14705.	<i>Jagadi.</i>
14662.	<i>Bile Nandiyal.</i>	14706.	<i>Dadia.</i>
14663.	<i>Amaldani.</i>		

**14500 to 14775—Continued.**

14707. <i>Farfaria</i> .	14743. <i>Kempu</i> .
14708. <i>Deshi Perio</i> .	14744. <i>Kempu</i> (A).
14709. <i>Sholapuri</i> .	14745. <i>Kempu</i> (B).
14710. <i>Chapti</i> .	14746. <i>Kachakachi</i> .
14711. <i>Perio Halko</i> .	14747. <i>Gundi Teni</i> .
14712. <i>Nialo</i> .	14748. <i>Kempu Malkin</i> .
14713. <i>Ratadia</i> .	14749. <i>Holgi Gola</i> .
14714. <i>Juar</i> .	14750. <i>Dudha Mogra</i> .
14715. <i>Sundhia</i> .	14751. <i>Tambdi Sholapuri</i> .
14716. <i>Komasu Juar</i> .	14752. <i>Dukri</i> (A).
14717. <i>Shalu Juar</i> .	14753. <i>Dukri</i> (B).
14718. <i>Malvan</i> .	14754. <i>Sargad</i> .
14719. <i>Uavli</i> .	14755. <i>Gund Chikodi</i> .
14720. <i>Sakar Makar</i> .	14756. <i>Gund Chikodi</i> (A).
14721. <i>Sundhia</i> (B).	14757. <i>Gund</i> (A).
14722. <i>Sorghum Amber</i> .	14758. <i>Paramsali</i> .
14723. <i>Sorghum Collier</i> .	14759. <i>Hassar Juar</i> (Sampgaon).
14724. <i>Raj. Hansa</i> .	14760. <i>Hassar</i> .
14725. <i>Imphee</i> .	14761. <i>Holgi Jola</i> .
14726. <i>Sakar Makar</i> (A).	14762. <i>Chikna</i> .
14727. <i>Kend</i> .	14763. <i>Maldani</i> (A) (Poona).
14728. <i>Motichur</i> .	14764. <i>Kempu</i> (D).
14729. <i>Perio</i> .	14765. <i>Vairagad Belsi</i> .
14730. <i>Sholapuri</i> .	14766. <i>Kagi</i> .
14731. <i>Chapti</i> .	14767. <i>Darker</i> .
14732. <i>Nialo</i> .	14768. <i>Darker</i> (A).
14733. <i>Rati</i> (A).	14769. <i>Sundhia Juwar</i> (Poona Farm).
14734. <i>Jogadi</i> .	14770. <i>Nilwa</i> (Bombay Presidency).
14735. <i>Ellichpuri</i> (A).	14771. <i>Uavli</i> .
14736. <i>Ellichpuri</i> (B).	14772. <i>Kavli</i> .
14737. <i>Nilwa Poona</i> (not ordinary).	14773. <i>Charodi</i> (Surat Farm).
14738. <i>Kempu</i> (C).	14774. <i>Ameria Sundhia</i> (Nadiad Farm).
14739. <i>Mevgar</i> (A).	14775. <i>Farfaria</i> .
14740. <i>Gidd Juari</i> .	
14741. <i>Wani Perio</i> .	
14742. <i>Kempu Poona</i> .	

**14776. PANICUM MAXIMUM.****Guinea grass.**

From Sydney, New South Wales. Presented by Anderson & Co., George street.  
Received June 3, 1905.

**14777. OPUNTIA FICUS-INDICA.****Prickly pear.**

From Honolulu, Hawaii. Presented by Mr. C. C. Conradt. Received June 3, 1905.

**14778. JUNCUS EFFUSUS CONGLOMERATUS. Matting rush.**

From Cat Island, S. C. Collected by Mr. J. H. Tull, June 1, 1905.

**14779 to 14785. ORYZA SATIVA. Rice.**

From Nazpur, India. Presented by Hon. J. W. Mollison, Inspector-General of Agriculture. Received June 5, 1905.

**14779. Badshah Bhog.**

"A fine-scented variety grown in Bengal Presidency. Grows best on clay or sandy loam, and requires ample water till the variety comes into ear." (Mollison.)

**14780. Welch.**

"A coarse variety grown in Bombay Presidency. Requires black soil and ample water till ripening." (Mollison.)

**14781. Kamod.**

"A fine-scented variety grown in Bombay Presidency. Grows on black or light soil, and requires ample water till ripening." (Mollison.)

**14782. Basmati.**

(See remarks on No. 14779.)

**14783. Dad Khani.**

(See No. 14779, with the exception that this is not a scented variety.)

**14784. Amber Mohr.**

"A fine-scented variety grown in Bombay Presidency. Requires black soil and ample water till ripening." (Mollison.)

**14785. Katri Bhog.**

(See remarks on No. 14783.)

**14786. MEDICAGO SATIVA. Alfalfa.**

From Tashkend, Turkestan. Received thru Mr. H. W. Dürrschmidt, June 3, 1905.

**14787. OPUNTIA sp. Prickly pear.**

From San Luis Potosi, Mexico. Received from Dr. Edward Palmer, thru Dr. J. N. Rose, of the United States National Museum, June 9, 1905.

*Tuna Tapona de Castilla.*

**14788. FREESIA sp.**

From Burnett, Cal. Received thru Rees & Compere, June 12, 1905.

**14789. NERINE sp.**

From Raleigh, N. C. Received thru Prof. W. F. Massey, Agricultural Experiment Station, June 12, 1905.

**14790. HYACINTHUS ORIENTALIS. Roman hyacinth.**

From Burnett, Cal. Received thru Rees & Compere, June 13, 1905.

*Albus.* From S. P. I. No. 12233. Received from J. M. Thorburn & Co. in the autumn of 1904.

**14791 to 14798. ZEA MAYS. Corn.**

From Richmond, Va. Received thru T. W. Wood & Sons, June 13, 1905.

Recommended to be the best varieties of corn for feeding green to stock; to be tested on sandy land near Washington, D. C.

**14791. Cocke's Prolific.****14795. Holt's Strawberry.****14792. White Columbia.****14796. Eureka.****14793. Hickory King.****14797. Virginia Ensilage.****14794. Mammoth Shoe Peg.****14798. Blount's Prolific.**

**14799. FREESIA sp.**

From Great Neck, Long Island, N. Y. Received thru Mr. Rudolph Fischer, June 13, 1905.

*Purity.*

**14800. SOLANUM TUBEROSUM.****Potato.**

From Elmira, N. Y. Received thru Prof. L. R. Jones from Mr. C. F. Vanderhoff, Oak Grove fruit farm, May 18, 1905.

*Blightproof.* "Recommended as remarkably resistant to disease (blight) and also excelling in yield, size, uniformity, and compactness of tuber development in the hills." (*Jones.*) (L. R. Jones's No. 64.)

**14801. GOSSYPIUM sp.****Cotton.**

From Lima, Peru. Received thru W. R. Grace & Co., New York, N. Y., June 7, 1905.

Seed of Peruvian cotton grown at Ica, in the southern part of Peru.

**14802 to 14805.**

From Püffelbach, near Apolda, Germany. Received thru Mr. A. Kirsche, June 8, 1905.

**14802. AVENA SATIVA.**

**Oat.**

**14803. TRITICUM VULGARE.**

**Wheat.**

*Spring.*

**14804. BETA VULGARIS.**

**Beet.**

*Ideal.*

**14805. DAUCUS CAROTA.**

**Carrot.****14806 to 14810. OPUNTIA FICUS INDICA.****Prickly pear.**

From Malta. Received thru Dr. G. Borg, of San Giovanni, June 12, 1905.

**14806.** Small, yellow-fruited, seedless.

**14809.** Reddish yellow fruited, seedless.

**14807.** White-fruited.

**14810.** Yellow-fruited.

**14808.** Red-fruited.

**14811. POLIANTHES TUBEROSA.****Tuberose.**

From Austin, Tex. Presented by Mr. F. T. Ramsey. Received June 16, 1905.

**14812. LILIUM PHILIPPINENSE.****Benguet lily.**

From Boston, Mass. Received thru R. & J. Farquhar & Co., June 16, 1905.

**14813 and 14814.**

From Manila, P. I. Received thru Prof. William S. Lyon, horticulturist in charge of seed and plant introduction, Bureau of Agriculture, Manila, P. I., June 6, 1905.

**14813. ERIODENDRON ANFRACTUOSUM.**

"The lint with us is a better color than some of the kapok that comes from Java, and commands a better price in this market. It is, I think, perhaps due more to climatic or soil influences than to any varietal difference." (*Lyon.*)

**14814. ORANIA PHILIPPINENSIS.**

"Pericarp rich in starch—24 per cent. Very ornamental." (*Lyon.*)

**14815. NEPHELIUM MUTABILE.****Kapoelasan.**

From Buitenzorg, Java. Presented by Doctor Treub, director of the Department of Agriculture. Received June 19, 1905.

**14816 to 14821. OPUNTIA FICUS INDICA.****Prickly pear.**

From Palermo, Sicily. Received thru Dr. A. Borzi, director of the Botanic Gardens, June 10, 1905.

14816. *Zuccarina.*14820. *Bianchi.*14817. *Frutti Sanguinei.*

14821. (Miscellaneous; unlabeled.)

14818. *Senza Chiupi.*14819. *Rossi.***14822 to 14839. OPUNTIA spp.****Tuna.**

From San Luis Potosi, Mexico. Received from Dr. Edward Palmer, thru Doctor Rose, of the National Museum, June 19, 1905.

14822. *Blanca Crystalina.* (Doctor Rose's No. 580 05.)14831. *Cacalota Blanca.* (604/05.)14823. *Redonda Colorado.* (581 05.)14832. *Camuesa or Camessa.* (606/05.)14824. *Pachora.* (582/05.)14833. *Tuna Blanca.* (607/05.)14825. *Cueja.* (583/05.)14834. *Xocochochlli Agre.* (608/05.)14826. *Joconostle.* (595/05.)14835. *Joconostle Cambria.* (609/05.)14827. *Durashillo Blanco.* (597/05.)14836. *Camuesa Color de Rose.* (610/05.)14828. *Naranjada.*14829. *Cueja Arantidea.* (600 05.)14837. *America Mansa.* (612/05.)14830. *Mansa Colorado.* (600/05.)14838. *San Miguel Lania.* (617/05.)14839. *Nopalea.* (661/05.)

"An opuntia found in the dense wood to the height of 20 or more feet. Where found alone exposed it has a neat, rather compact top, with a naked stem of 7 to 9 feet and from 6 to 8 inches in diameter, with bunches of thorns up the stem. The fruits are small." (Palmer.)

**14840 to 14869.**

From Frescati, near Stockholm, Sweden. Presented by Prof. Veit Wittrock, June 21, 1905.

A collection of grass and forage crop seeds:

14840. *AGROSTIS ASPERULA.*14850. *TRITICUM DESERTORUM.*14841. *AVENA PLANICULMIS.*14851. *TRITICUM INTERMEDIUM.*14842. *BROMUS ANDINUS.*14852. *TRITICUM VIOLACEUM.*14843. *DACTYLIS ASCHERSONIANA.*14853. *MEDICAGO CARSTIENSIS.*14844. *ELYMUS CHUBUTENSIS.*14854. *MELILOTUS ELEGANS.*14845. *ELYMUS SABULOSUS.*14855. *MELILOTUS SULCATA.*14846. *PHLEUM MICHELII.*14856. *MELILOTUS TOMMASINI.*14847. *POA ATTICA.*14857. *TRIFOLIUM ALPESTRE.*14848. *TRITICUM CRISTATUM.*14858. *TRIFOLIUM BADIUM.*14849. *TRITICUM DASYANTHUM.*14859. *TRIFOLIUM MONTANUM.*



**14840 to 14869—Continued.****14860.** TRIFOLIUM OCHROLEUCUM.**14861.** TRIFOLIUM RUBENS.**14862.** VICIA ALTISSIMA.**14863.** VICIA CALCARATA.**14864.** VICIA DASYCARPA.**14865.** VICIA DISPERMA.**14866.** VICIA DUMETORUM.**14867.** VICIA GRANDIFLORA KITAIBELIANA.**14868.** VICIA PISIFORMIS.**14869.** VICIA SEPIUM.**14870. GOSSYPIUM sp.****Cotton.**

From Cartavio, Peru. Presented by Mr. T. F. Sedgwick, of the Cartavio Sugar Company. Received June 14, 1905.

**14871 to 14878. NICOTIANA TABACUM.****Tobacco.**

From Sao Paulo, Brazil. Presented by Dr. H. M. Lane, Mackenzie College. Received June 20, 1905.

Brazilian tobacco seed:

**14871.** *Georgiana*. From Descalvado, State of Sao Paulo.**14872.** From Pirassununga, State of Sao Paulo. Not named, but highly esteemed in the locality.**14873.** *Bussucaba*. From near the city of Sao Paulo, State of Sao Paulo.**14874.** *Crioula*. From Santa Rita, State of Sao Paulo.**14875.** *Fumo Bahia*.**14876.** *George Grande*. From the State of Rio de Janeiro.**14877.** *Goyana*. Yellow, from the State of Goyaz.**14878.** *Goyana*. White, from the State of Goyaz. Doctor Lane says that both the yellow and the white *Goyana* are famous thruout the country.**14879. ZEPHYRANTHES sp.**

From San Luis Potosi, Mexico. Presented by Dr. Edward Palmer, thru Dr. J. N. Rose. Received June 19, 1905.

**14880 and 14881. VICIA FABA.****Horse bean.**

From Paris, France. Received thru Vilmorin-Andrieux & Co., June 22, 1905.

**14880.** *Printemps de Lorraine*,  
*petite*.**14881.** *D'Hiver*.**14882. ZIZYPHUS sp. (?)**

From Bulsar, India. Presented by Rev. W. R. Miller, 466 Jackson boulevard, Chicago, Ill. Received June 23, 1905.

**14883. MEDICAGO SATIVA.****Alfalfa.**

From Logan, Mont. Received thru Mr. William Carpenter, June 24, 1905.

**14884. CINNAMOMUM CAMPHORA.****Camphor.**

From Yokohama, Japan. Received thru L. Boehmer & Co., June 24, 1905.

**14885 to 14887. GOSSYPIUM spp.****Cotton.**

From Sydney, New South Wales, Australia. Received thru Mr. J. H. Maiden, director of the Botanic Garden, July 7, 1905.

Cotton seed and samples of lint secured on request from Mr. David Thomatis, Caravonica, Cairns, North Queensland, Australia, April 21, 1905.

**14885.** *Caravonica I.* (Wool  
cotton.)**14887.** *Caravonica II.* (Silk  
cotton.)**14886.** *Peruvian Kidney*.

**14888. NEPHELIUM LITCHI.****Litchi.**

From Honolulu, Hawaii. Received from Mr. G. P. Wilder, thru Mr. James Mills, Arlington Heights Fruit Company, Riverside, Cal., July 10, 1905.

"The tree which bore these fruits is one of the two or three mature trees of this species in Hawaii and is the property of Mrs. Afong. The price of these fruits is about 3 cents each on the retail market of Honolulu. Seeds from Mrs. Afong's trees are being extensively planted in the islands; the demand is likely to be much greater than the supply for many years. It is believed the variety comes fairly true from seed, but in China, where about six distinct sorts are recognized, grafting or inarching is relied upon for best results.

"The yellowish, sweet, pulpy arillus of this fruit is highly esteemed in China, Cochin China, and the Philippines. It also fruits in East Australia, and it can undoubtedly be grown with profit in Porto Rico, south Florida, and California.

"The fruit resembles a strawberry or large acorn in size and shape but has a shell-like, rough skin; the pulp is white, very juicy, and of a peculiar sweet and sour flavor, the taste for which does not have to be acquired." (Wilder.)

**14889 and 14890. PERSEA GRATISSIMA.****Avocado.**

From City of Mexico, Mexico. Presented by the American ambassador. Received July 13, 1905.

14889. *Seedless.*14890. *Seedless Butter.***14891. SOLANUM MURICATUM (?).****Pepino.**

From Port of Spain, Trinidad. Received thru Mr. Eugene André, July 7, 1905.

**14892. (Undetermined.)**

From Kongo Free State, Africa. Presented by the director of the Botanical Garden at Eala, thru the Department of Finances, Brussels, Belgium. Received July 17, 1905.

A wild ornamental recently discovered in the Kwango Oriental district of the Lower Kongo, Kongo Free State.

**14893 and 14895. SOLANUM TUBEROSUM.****Potato.**

From Quito, Ecuador. Presented by Mr. L. Martines, chief of the Department of Public Instruction, Section of Agriculture.

Seed potatoes.

14893. *Chola.*

From the "El Obraje" estate, Señor Luis F. López Ortega, proprietor, parish of Chillogallo, Province of Pichincha, 2,900 meters above sea level. (No. 1.)

14894. *Uchu-rumi.*

From the "Carrión" estate, Señor Carlos Mateus, proprietor, parish of Lloa, Province of Pichincha, 2,900 meters above sea level. Grown in alluvial soil. (No. 2.)

14895. *Chola.*

Grown on same estate as preceding, at the base of Pichincha volcano, 2,900 meters above sea level, in dark, heavy soil. (No. 3.)

**14896 to 14906.**

From Richmond, New South Wales. Presented by Mr. H. W. Potts, principal of the Hawkesbury Agricultural College. Received June 26, 1905.

14896. *ANDROPOGON AFFINIS.*14901. *EHRHARTA STIPOIDES.*14897. *ERAGROSTIS BROWNII* IN-  
TERRIPTA.14902. *PANICUM EFFUSUM.*14898. *ERAGROSTIS LEPTOSTA-*  
CHYA.14903. *PANICUM SANGUINALE.*14899. *ERAGROSTIS PILOSA.*14904. *PASPALUM BREVIFOLIUM.*14900. *STERCULIA DIVERSIFOLIA.*14905. *CHAETOCLOA GLAUCA.*14906. *STIPA TUCKERI.*

**14907. CITRUS DECUMANA.****Pomelo.**

From Oneco, Fla. Received thru Reasoner Brothers, July 3, 1905.

*Stick's Tresca Red.***14908. PHYSALIS EDULIS.****Cape gooseberry.**

From Cape Town, South Africa. Presented by Prof. C. P. Lounsbury, government entomologist, Cape of Good Hope Department of Agriculture. Received June 26, 1905.

"The mother plantation is at Wynberg, here in the Cape Peninsula. The plant with us is a perennial, but the frost will cut it down. In some districts it fruits well; in others, scarcely at all. It seems to do best on the border of woodlands. A species of *Tetranychus* is its one great pest in South Africa. Mr. Malley tells me that his brother has tried it in Texas without success." (*Lounsbury.*)

**14909 to 14921. ZEA MAYS.****Popcorn.**

From Santiago, Chile. Presented by Señor Salvador Izquierdo, Santa Ines, near Santiago. Received June 23, 1905.

"Samples of popcorn used in Chile for the manufacture of 'Ilalli.' Samples were without names or specific data other than the above." (*Fairchild.*)

**14922. THYSANOLAENA AGROSTIS.**

From Calcutta, India. Presented by A. Gage, officiating superintendent, Royal Botanic Garden, Sibpur, near Calcutta. Received June 24, 1905.

See S. P. I. No. 8445, for a description of this unusually beautiful ornamental cane.

**14923 to 14944. OPUNTIA sp.****Tuna.**

From San Luis Potosi, Mexico. Received from Dr. Edward Palmer thru Dr. J. N. Rose, of the United States National Museum, June, 1905.

14923. *Pachona.*

14936. (No label.)

14924. *Pasteada Lisa.*

14937. (Doctor Rose's No. 613/05.)

14925. *Narancow Lisa* (spineless.)

14938. (Doctor Rose's No. 614/05.)

14926. *San Juanara Manzana,* blanca.14939. *Ranchera* (Doctor Rose's No. 643/05).14927. *Cameosa Lisa.*14940. *Cueja* (Doctor Rose's No. 644/05).14928. *Tuna Blanca Seca.*

14941. (Doctor Rose's No. 646/05.)

14929. (No label.)

14930. *Morada.*14942. *Camuesa Prisco* (Doctor Rose's No. 673/05).

14931. (Spineless.)

14932. (No label.)

14943. *Mansa Color de Rosa* (Doctor Rose's No. 674/05).

14933. (No label.)

14934. (No label.)

14944. *Crystalina Blanca* (Doctor Rose's No. 675/05).

14935. (No label.)

**14945 and 14946. GOSSYPIUM sp.****Cotton.**

From Payta, Peru. Received thru Duncan, Fox &amp; Co., July 3, 1905.

14945. Brown seed.

14946. White seed.

**14947. CUCURBITA MELANOSPERMA.**

From San Luis Potosi, Mexico. Presented by Dr. Edward Palmer. Received June 22, 1905.

"One fruit called '*Cila callote*' from a vine that is very productive. The fruit keeps several months. Fine preserves are made from it—one from the interior after

the seeds are removed, another in the ordinary way, the third a hard marmalade. If the seeds are sent to some suitable experiment station with long seasons, they will be as useful as in Mexico." (*Palmer.*)

**14948. LAPAGERIA ROSEA.****Chilean bellflower.**

From Coronel, Chile. Presented by Mr. Teodoro Finger, of La Compania de Aranco (Limited). Received July 3, 1905.

"The plant is a creeper, evergreen and lasting, growing up the highest trees and covering the same entirely with its foliage, and in winter the most beautiful scarlet-red big bell-like blossoms make it the favorite Chilean flower for the sight and decoration when no other flowers are blossoming. It has given to the Chilean forests a peculiarly attractive and beautiful appearance, being mentioned by almost every traveler. It grows on any soil, preferring heavy red-clay soil. It requires fair watering. It always climbs up a bushy shrub or on a tree. You can sow it in spring, and it stands a light frost without danger. It is entirely an ornamental plant. The roots go down very deep and form a potato at the end, which causes the death of the plant if it is cut off at transplanting. The plants have been taken to Europe, and especially are today grown in hothouses and winter gardens in England. It has caused attention that the plants transplanted to Europe, giving once red blossoms, will never give red blossoms again, but only white ones. It is very difficult to get ripe seeds in the virgin forests, as the birds are very fond of them. The seeds are covered with a small gumlike and a little sourish-tasting mass, which the natives like to eat. I find no pleasant taste in them at all." (*Finger.*)

**14949 to 14951. OPUNTIA spp.****Tuna.**

From San Luis Potosi, Mexico. Received from Dr. Edward Palmer, thru Mr. W. E. Safford, of the Bureau of Plant Industry, June, 1905.

**14949.** *Tapona*. Red, globular fruit.

**14951.** (An unnamed variety; has thick, tuberculated root.)

**14950.** *Cardona*. Yellow fruit.

**14952 to 14962.**

From Shanghai, China. Presented by Mr. Edward S. Little. Received in May, 1905.

**14952.** *GLYCINE HISPIDA*.

**Soy bean.**

*Black.*

**14953.** *GLYCINE HISPIDA*.

**Soy bean.**

*Large yellow.*

**14954.** *GLYCINE HISPIDA*.

**Soy bean.**

*Small yellow.*

**14955.** *PANICUM MILLACEUM*.

**Broom-corn millet.**

*Red.*

**14956.** *PANICUM MILLACEUM*.

**Broom-corn millet.**

*White.*

**14957.** *BRASSICA CHINENSIS*.

**Chinese rape.**

**14958.** *SESAMUM INDICUM*.

**Sesame.**

*Black.*

**14959.** *SESAMUM INDICUM*.

**Sesame.**

*White.*

**14960.** *PHASEOLUS RADIATUS*.

**Mung bean.**

**14961.** *ARACHIS HYPOGAEA*.

**Peanut.**

*Small.*

**14962.** *ARACHIS HYPOGAEA*.

**Peanut.**

*Large.*

**14963. ORYZA SATIVA.****Rice.**

From Kobe, Japan. Presented by M. K. Ojuni, custom-house, Kobe, Japan.  
Received April 17, 1905.

**14964 to 14971.**

From Kashmir, India. Received thru the Office of Farm Management Investigations, July 8, 1905. Seeds collected by Messrs. Ellsworth Huntington and R. L. Barrett.

**14964. HORDEUM VULGARE.****Barley.**

"Barley from Sonamarg, in the Sind Valley, Kashmir. Altitude, 8,500 feet; rainfall, probably 50 inches." (*Huntington.*)

**14965. HORDEUM VULGARE.****Barley.**

*Hull-less.* "From Dras, in the Indus Valley, India. Altitude, 10,100 feet; rainfall, probably about 30 inches, mostly as snow. Irrigation is practised. Snow was 6 feet deep April 13, and lasts till well into May." (*Huntington.*)

**14966. LATHYRUS sp.**

From Dras, in the Indus Valley, India.

**14967. ORYZA SATIVA.****Rice.**

"From Kund, in the Sind Valley, Kashmir, India. Elevation, 6,800 feet. The climate of this region is so severe that on April 7, 1905, after an unusually hard winter, the ground was still well covered with snow. The rainfall of the region is perhaps 40 to 50 inches, well distributed thruout the year." (*Huntington.*)

**14968. PANICUM MILIACEUM.****Broom-corn millet.**

"From Kulan in the Sind Valley, Kashmir, India. Altitude, 7,200 feet. Precipitation, about 40 inches. Snow lasts till April." (*Huntington.*)

**14969. FAGOPYRUM TATARICUM.****Buckwheat.**

"Hindustani '*trumba*,' from Kund, in the Sind Valley, Kashmir, India. Altitude, 6,800 feet. The climate of this region is such that on April 7, 1905, after an unusually severe winter, the ground was still well covered with snow. This grain is said to make good bread, tho slightly bitter. The rainfall of the region is perhaps 40 inches or more, well distributed thruout the year." (*Huntington.*)

**14970. TRITICUM VULGARE.****Wheat.**

"From Tashgam, Indus Valley, India. Rainfall from 25 to 30 inches, mostly as snow. Irrigation necessary. Snow lasts till middle of April." (*Huntington.*)

**14971. ZEA MAYS.****Corn.**

"From Kund, in the Sind Valley, Kashmir, India. Altitude, 6,800 feet. The rainfall of the region is perhaps 40 to 50 inches, well distributed thruout the year. The climate of this region is such that on April 7, 1905, after an unusually severe winter, the ground was still covered with snow." (*Huntington.*)

**14972 and 14973.**

From Quito, Ecuador. Presented by L. Martines, chief of the Department of Public Instruction, Section of Agriculture. Received July 13, 1905.

**14972. MEDICAGO SATIVA.****Alfalfa.**

From Guanando district, Province of Chimborazo, 2,400 meters above sea level.

**14973. SOLANUM TUBEROSUM.****Potato.**

*Chauca.* White and black. Early variety from Hacienda Magdalena, Province of Imbabura, 2,225 meters above sea level.



**14974 and 14975.**

From Sao Paulo, Brazil. Presented by Dr. H. M. Lane, July 25, 1905.

**14974. PHASEOLUS LUNATUS.**

**Lima bean.**

Grown in Batataes. Doctor Lane says that these are the most wonderfully prolific pole beans he ever saw.

**14975. NICOTIANA TABACUM.**

**Tobacco.**

Seed from Goyaz. Doctor Lane is afraid it is a mixt lot, as the friend who sent it wrote: "It contains the best varieties grown in the State. The *White*, *Yellow*, and *Giant* can easily be distinguished in the plants."

**14976 to 14979. NICOTIANA TABACUM.**

**Tobacco.**

From Cachoeira, Bahia, Brazil. Received from Mr. W. A. Waddell, July 28, 1905. Sent at the request of Dr. H. M. Lane, of Sao Paulo.

**14976.** Seed from Santa Estevao.

**14978.** Seed from Cabeças de Murityba.

**14977.** Seed from Outeiro Redendo.

**14979.** Seed from Cruz das Almas.

**14980 to 14983. OPUNTIA spp.**

**Prickly pear.**

From Tunis, North Africa. Received thru the director of the Tunisian Department of Agriculture and Commerce, July 28, 1905.

**14980. OPUNTIA FICUS-INDICA.**

**14982. OPUNTIA FICUS-INDICA INERMIS.**

**14981. OPUNTIA TUNA.**

**14983. OPUNTIA ROBUSTA.**

**14984 to 14989.**

From Cape Town, South Africa. Received thru the Smithsonian Institution, from Mr. H. J. Chalvin, superintendent of the Municipal Gardens, July 29, 1905.

**14984. ASPARAGUS CRISPUS.**

**14987. SPARAXIS PURPUREA.**

**14985. FREESIA REFRACTA ALBA.**

**14988. SYNNOTIA BICOLOR.**

**14986. SPARAXIS BULBIFERA.**

**14989. TRITONIA FENESTRATA.**

**14990 and 14991.**

From Paris, France. Received thru Vilmorin-Andrieux & Co., August 10, 1905.

**14990. VICIA VILLOSA.**

**Hairy vetch.**

**14991. HEDYSARUM CORONARIUM.**

**Sulla.**

**14992. ZEA MAYS.**

**Popcorn.**

From Amboina, Dutch East Indies. Presented by Mr. Roskott. Received August 9, 1905.

**14993. CITRUS AUSTRALASICA.**

**Finger lime.**

From Queensland, Australia. Presented to Prof. W. M. Hays, St. Anthony Park, Minn., by Mr. James Pink, of Wellington Point, near Brisbane. Received August 11, 1905.

"It is a fruit which I think capable of great improvement. Nothing has ever been attempted with it here, and I send you a few dried fruits which, I have no doubt, contain good seeds. The plant is a large shrub, very limited in its distribution.

"The fruit when well grown is from 3 to 4 inches long, of a bright orange-crimson color, and of excellent flavor." (*Pink.*)

**14994. TRIFOLIUM INCARNATUM.**

**Crimson clover.**

From New York, N. Y. Received thru Henry Nungesser & Co., August 11, 1905.



**14995. DAHLIA IMPERIALIS.****Dahlia.**

From Queenstown, Cape Colony. Received thru Mr. F. Beswick, secretary of the Queenstown Public Gardens, August 14, 1905.

**14996 to 14998.**

From Mexico. Received thru Dr. J. N. Rose, of the United States National Museum, August 14, 1905.

**14996. SCHOENOCALON sp.****14998. PINGICULA sp.****14997. JUGLANS sp.****14999. EUPATORIUM PORTORICENSE.****"Guerrero."**

From Mayaguez, P. R. Received thru Mr. O. W. Barrett, from the Agricultural Experiment Station, August 15, 1905.

"A shrub, 1 to 3 meters high, found in a semicultivated state in the western part of Porto Rico. The dried leaves have a strong vanilla-like fragrance and are used in scenting the better grades of Porto Rican tobacco. Tho a perennial, this plant will probably fruit in the latitude of Connecticut; it is a very rapid grower." (*Barrett.*)

**15000 to 15210. PHOENIX DACTYLIFERA.****Date.**

From Tunis, North Africa. Received thru Mr. Thomas H. Kearney, agricultural explorer, who secured them during his explorations in the winter of 1904-5 in the oases of southern Tunis.

"The nomenclature is that secured by Mr. Kearney from the Arabs from whom he bought the suckers, and the descriptions were made partly in Tunis and partly after his return to this country. See his bulletin on the date palms of Tunis." (*Fairchild.*)

**15000. Ammary.**

A third-class "soft" variety; fruit  $1\frac{1}{4}$  to a little over  $1\frac{1}{2}$  inches long, about one-half as wide, generally obovoid, square at the base, rounded at the apex, keeping its shape fairly well when preserved, dark-brown purple when ripe; the flesh  $1\frac{1}{2}$  lines thick, very soft and dark colored; the seed about two-thirds as long as the fruit, about two-fifths as wide as long, blunt at both ends. The stalks and branches of the fruit clusters are orange colored.

The earliest maturing variety in Tunis, ripening in August and September. Said to give a very good crop every year and to be very productive.

**15001. Angoo.**

A second-class "dry" variety; fruit barely 1 inch long, about seven-tenths as wide, sometimes broadest below, sometimes above the middle; bright bay-colored when ripe, much of the skin becoming loosened in large blisters, the flesh a little over 1 line thick, becoming firm and dry, the white central portion thicker than the dark-colored outer zone; the seed about two-thirds as long as the fruit, about one-half as wide as long, light-drab brown. The stalks of the fruit clusters are lemon yellow.

The smallest fruited of the Tunisian varieties. Despite its diminutive size and thin flesh, this little date is one of the most attractive of the "dry" type. Because of its moderately sweet, wholesome, nutty flavor it can be eaten in large quantities without cloying, and should be a healthful food. Ripens in midseason.

**15002. Areshty.**

A first-class "soft" variety; fruit  $1\frac{3}{8}$  to  $2\frac{1}{2}$  inches long, one-half to two-thirds as wide, slightly larger above than below the middle, broad and rounded at the apex, light bay or hazel brown when ripe; the flesh  $2\frac{1}{2}$  to 3 lines thick, firm but tender; the seed about one-half as long as the fruit, rather thick, irregularly roughened. The stalks and branches of the fruit clusters are light orange. The foliage of this variety is rather light and the leaves drooping.

One of the largest dates grown in Tunis. The fruit is generally egg-shaped, ripening about the middle of October. The flavor of the thoroly ripe fruit is agreeable, altho not very remarkable, wholesome, nut-like, and not easily cloying. The flesh becomes quite firm and the ripe fruit keeps its shape well when preserved.

**15000 to 15210—Continued.****15003. Baydh Hammam.**

A second-class "soft" variety; fruit  $1\frac{1}{8}$  to  $1\frac{1}{2}$  inches long, three-eighths to five-eighths as wide, egg-shaped, broadest near the middle, rather conspicuously blunt-pointed at apex, not keeping its shape well, dark chestnut brown with a tinge of maroon when ripe; the flesh very soft and dark colored, about 2 lines thick; the seed one-half to five-eighths as long as the fruit, one-third to two-fifths as wide as long; dark brown. The stalks and branches of the fruit clusters are orange colored. The foliage is of a rather delicate aspect and the leaves numerous.

This is a handsome, dark-brown date with very soft, dark-colored flesh. It is always eaten fresh, not being conservable. It is exceedingly sweet. The flavor of the perfectly ripe fruit is agreeable and very characteristic. It ripens rather late, hardly before November.

**15004. Bayjoo, or Baijoo.**

A third-class "dry" date; fruit  $1\frac{1}{2}$  inches long, about two-thirds as wide, ovoid, purplish maroon or bay colored when ripe; the flesh  $1\frac{1}{2}$  lines thick; the seed nearly two-thirds as long as the fruit, one-half as wide as long; light brown. The stalks and branches of the fruit clusters are pale orange colored. The small, dense bunches of fruit hang down on long curved stalks.

Flavor nutty, agreeable but not very characteristic, typical of the "dry" date class. Matures in October.

**15005. Bent Segny.**

A third-class "soft" variety; fruit  $1\frac{1}{2}$  to  $1\frac{3}{4}$  inches long, about one-half as wide, obovoid, square at base, rounded at apex, keeping its shape poorly when preserved, very dark purplish brown (almost black) when ripe; the flesh  $1\frac{1}{2}$  lines thick, very dark colored and very soft; the seed about one-half as long as the fruit, two-fifths to one-half as wide as long, rounded at both ends. The stalks and branches of the fruit clusters are deep orange colored.

A very soft, sirupy date, with a pleasant but not remarkable flavor. Ripens about the end of October.

**15006. Besser Haloo, or Bissa Haloua.**

A second-class "soft" variety; fruit  $1\frac{1}{4}$  to  $1\frac{1}{2}$  inches long, about two-thirds as wide, broadest at or above the middle, rounded at the apex, keeping its shape well when ripe, bright bay colored; the flesh 2 lines thick, comparatively dry when the fruit is ripe, light brown; the seed two-thirds to three-fourths as long as the fruit, generally two-fifths as wide as long, with more or less conspicuous winglike ridges on the sides. The spreading or ascending stalks of the fruit clusters are so short that the small bunches are nearly hidden by the foliage. The leaves are short and rather stiff, with comparatively short stalks and wide leaflets.

A small, light-colored date, with thick, comparatively firm flesh. It is very sweet and has an agreeable flavor, somewhat intermediate between that of Lagoos and that of Horra. The natives seem to prefer it when not perfectly ripe. It matures early in October. One of the six most productive varieties. Among the four most salt-resistant varieties.

**15007. Boo Affar.**

A first-class "soft" date; fruit about 2 inches long and five-ninths to three-fifths as wide, conspicuously wider above than below the middle, but narrowed to the blunt apex, bright purplish maroon when ripe; the flesh 3 to  $3\frac{1}{2}$  lines thick, tender yet firm; the seeds a little more than one-half as long as the fruit, cinnamon brown. The stalks and branches of the fruit clusters are deep orange. The foliage is said to be heavy and the leaves wide and very green.

The fruit is remarkable not only for its large size, thick flesh, and delicious flavor, but for its beautiful coloring; ripens rather late. The flesh is tender, yet rather firm, and is very sweet and full of sugar. The skin, even of the ripe fruit, is fairly clean and dry.

**15008. Boo Fagoos; also spelled Bou Fagous, or Feggouss.**

A first-class date of the "soft" type; fruit  $1\frac{1}{2}$  to  $1\frac{3}{4}$  inches long, considerably more than one-half as wide, constricted near the middle and widest toward the apex, maroon to prune purple when ripe; the flesh  $2\frac{1}{2}$  lines thick; the seed

**15000 to 15210—Continued.**

five-ninths to five-eighths as long as the fruit, rather slender. The orange-colored stalks of the fruit clusters are sharply curved, and so short that the rather small bunches hardly extend beyond the leafstalks.

The foliage of this, as of several other of the finest varieties, is of a light and delicate aspect, due in this case to the relatively few leaves and the narrowness of the leaflets. The leaves themselves are large and wide, curving downward very noticeably.

The large fruit is remarkable for its unusual shape, somewhat like that of a fiddle or of some of the varieties of gherkins, to which it doubtless owes its Arabic name. The flesh is thick and rather firm, yet tender. It is very sweet and has a very distinctive and highly attractive flavor. It ripens late in October.

**15009. Deglet Barca.**

Fruit said to be "soft," round, and nearly black. It is described as a soft date that preserves very well.

**15010. Deglet Caid.**

Fruit coral red before maturity, and black when ripe; said to be conservative only for a short time. Reported to be a fine variety and to ripen early in September.

**15011 and 15012. Deglet Noor.**

A first-class "soft" date; fruit  $1\frac{1}{2}$  to a little over 2 inches long and about one-half as wide, ovoid oblong in shape, generally widest at or near the middle and blunt pointed at the apex, often narrowed also at the base, maroon colored when ripe; the flesh 2 to 3 lines thick, translucent; the seed about five-ninths as long as the fruit, conspicuously pointed, and dark chestnut brown in color. The stalks and branches of the fruit clusters are bright yellow (not orange), with stalks long and slender, sharply curved near the base, so that the bunches hang down far below the crown of foliage.

The Deglet Noor presents a combination of characteristics—fine flavor, sweetness, attractive appearance, cleanliness, good keeping qualities—that can be rivaled by no other variety that is widely grown. It requires a high sum total of temperature to bring it to perfect maturity; begins to ripen in quantity toward the end of October, slower in coming into full bearing than most varieties, the palms generally not giving a good crop until they are 10 years old, producing largely only every second or third year.

**15013. Deglet Sennaga.**

A "soft" date; fruit 37.5 to 40 mm. long, 17.5 mm. wide, oblong, somewhat pointed at the apex, bright chestnut brown when ripe, surface shining, skin much loosened and folded; flesh soft, dark colored; seed large, dark brown; very sweet; flavor distinctive (suggesting burnt sugar) and rather agreeable, but not very pronounced. It is said to keep well.

**15014. Dokar. (Early, male.)****15015. Dokar. (Medium, male.)****15016. Dokar. (Late, male.)****15017. Doonga, or Denanga.**

A second-class "soft" date; fruit a little over  $1\frac{1}{2}$  inches long, six-tenths to seven-tenths as wide, egg-shaped, broadest near the base, dull dark purplish maroon when ripe; the flesh  $1\frac{1}{2}$  to 2 lines thick, firm white, central portion nearly as thick as the dark outer zone; seeds small and thick (only about one-half as long as the fruit and about one-half as wide as long), narrowed at both ends. The stalks and branches of the fruit clusters are light orange.

A dark-colored, rather small date, with moderately soft, dark-colored flesh and with a clean, dry skin. It is very sweet and of a fine flavor, suggesting that of Deglet Noor.

**15018. Fteemy, or Ftimi.**

A first-class "soft" date; fruit  $1\frac{2}{3}$  to 2 inches long, about one-half as wide, oblong, slightly narrowed at both ends, dark purplish maroon when ripe, the surface shining, the flesh soft and sirupy, about 2 lines thick, the seed about

**15000 to 15210—Continued.**

five-ninths as long as the fruit, slender. The foliage is luxuriant, and the numerous leaves are long, wide, and crowded with long, broad leaflets. In color they are decidedly bluish, owing to the presence of a heavy, white bloom.

Altho inferior in flavor to the Deglet Noor this is unquestionably an excellent variety, greatly excelling the Deglet Noor in vigor, rapid growth, early productiveness, and large yields. The oblong fruit, when ripe, is of fine reddish purple color, very rich in flavor, extremely sweet, and so soft and sirupy as to melt in the mouth when fresh. It can not be eaten in great quantity, however, without cloying. It becomes very sticky and is therefore less satisfactory as a dessert fruit than the Deglet Noor. This variety is considered one of the most productive, giving a good crop every year. Is a late ripening variety, its fruit beginning to mature in quantity at the same time as the Deglet Noor, about November 1. It ranks among the four most alkali-resistant varieties.

**15019. *Gasby.***

A third-class "soft" variety; fruit  $1\frac{1}{2}$  to a little over 2 inches long, about two-fifths as wide, oblong, often conspicuously curved, very dark prune purple, with a conspicuous bloom when ripe, the surface dull, the skin rather tough, russet brown where loosened from the flesh; the flesh  $\frac{1}{2}$  line thick, dark colored, remaining rather soft; the slender seed five-ninths to three-fifths as long as the fruit, two-sevenths to one-third as wide as long, russet brown, often curved. The stalks and branches of the fruit clusters are deep orange colored.

Ripens very early. A handsome, long, dark-colored, generally curved date. Flavor is of the Lagoo type, rather attractive, suggesting that of raisins. It is said to keep very well.

**15020. *Gash Haloo.***

Fruit said to resemble Kenteeshy in color; described as sweeter and better flavored than Gasby.

**15021. *Guern-el-Rhozal.***

Said to be a long, slender, curved date, with a stone unusually large and a thin flesh.

**15022. *Goondy.***

A third-class "soft" variety; fruit about  $1\frac{1}{2}$  inches long, about one-half as wide, obovoid-oblong, keeping its shape fairly well when preserved, bay to maroon colored when ripe; the flesh about  $1\frac{1}{2}$  lines thick, dark colored, remaining rather soft, the seed five-eighths as long as the fruit, about one-third as wide as long. The stalks and branches of the fruit clusters are bright orange colored. Said to ripen as early as September 15.

Sweet and agreeable, but not of pronounced flavor; of the Lagoo type.

**15023. *Hoboot Bayla*; also *Halounia*.**

A second-class "dry" date; fruit  $1\frac{1}{2}$  to  $1\frac{1}{4}$  inches long, about one-half as wide, elliptical in outline, not conspicuously narrowed at the apex, widest near the middle, dull purplish bay when ripe; the flesh  $1\frac{1}{2}$  lines thick, becoming very firm and dry; the seed about seven-tenths as long as the fruit and one-third to two-fifths as wide as long. The branches of the fruit clusters are pale orange.

Much like the Lemsy, but the fruit is even smaller. It ripens rather early and is generally eaten fresh, becoming hard and dry when preserved.

**15024. *Halounia.*****15025. *Hamra*, or *Hamraia*.**

A third-class "dry" date; fruit  $1\frac{1}{2}$  to 2 inches long, about one-half as wide, ovoid, tapering from near the base to the rounded apex, bright purplish maroon when ripe; the flesh  $1\frac{1}{2}$  to  $\frac{3}{4}$  lines thick, becoming quite firm, the dark-colored outer zone thicker than the white central portion; the seed two-thirds to four-fifths as long as the fruit, generally about two-fifths as wide as long, sometimes with strongly developed winglike ridges on the sides. The stalks and branches of the fruit clusters are orange colored.

One of the largest and most showy of the "dry" dates. Much resembles Horra

**15000 to 15210—Continued.**

and surpasses it in brightness of color, but is decidedly inferior to it in flavor. Ripens in the latter part of October and the beginning of November. Said to keep well.

**15026. *Horra*.**

The name is also spelled "Hourra," "Harra," and "Herra."

A first-class "dry" date; fruit about 2 inches long, about one-half as wide, ovate, narrowed from the base to the rounded apex, rather dull purplish maroon when ripe, the flesh 2 to 2½ lines thick, with its white central zone much thicker than the dark outer portion, the seed usually about one-half as long as the fruit. The stalks and branches of the fruit clusters are orange yellow. The leaves are large, with very numerous slender leaflets.

The fruit is the largest and finest produced by any variety of the "dry" class. The flesh becomes quite solid in the ripe fruit, but is never extremely hard and dry. It has the characteristic nutty flavor of the dry dates, but is much richer than most of them. It is at its best only when perfectly mature and is one of the best keeping varieties. A medium-early sort, ripening in October.

**15027. *Iteema*, or *Ytima*.**

A third-class "soft" variety; fruit slightly over 2 inches long, about one-half as wide, widest at or near the middle, rounded at the base, somewhat pointed and conspicuously unsymmetrical at apex, not keeping its shape well when preserved, chestnut brown, with a slight purple tinge when ripe, the surface shining, the flesh over 2 lines thick, extremely soft, the seed nearly one-half as long as the fruit, about two-fifths as wide as long, chestnut colored.

A very handsome date, with sirupy, translucent flesh, extremely sweet, rather insipid in flavor. Early ripening sort. Is eaten fresh.

**15028. *Karoooy*.**

A third-class "soft" variety; fruit 1½ inches long, about one-half as wide, ovoid, narrowed from near the base to the rounded apex, keeping its shape fairly well when preserved, bay colored when ripe; skin, where loose, olive brown; the flesh about 1½ lines thick, rather tough; the seed about five-eighths as long as the fruit, about one-third as wide as long. The branches and stalks of the fruit clusters are orange colored.

Flesh rather tough, moderately sweet, flavor agreeable, similar to that of the "dry" dates.

**15029. *Kenta*.**

A first-class "dry" date, fruit 1½ to 1¾ inches long, about one-half as wide, narrowed from the middle or above it to the broad apex, dull bay colored when ripe, much of the skin loosened in large blisters in the ripe fruit, the flesh 1½ to 2 lines thick, the seed four-sevenths to five-eighths as long as the fruit, rounded at both ends, light brown.

The leaves of this variety are rather broad, with numerous long, narrow leaflets. The light-orange stalks of the fruit clusters are stout and horizontal or ascending, and so short that with the bunches they do not equal the leaf-stalks. The clusters themselves are short, thick, and densely crowded with fruit.

One of the most highly esteemed and widely grown of the dry dates found in Tunis. The fruit is of medium size, the flesh rather thin, becoming quite firm, altho not very dry. The surface is clean and dry even when the fruit is quite ripe. It is not sirupy, altho pleasantly sweet, and can be eaten in quantity without cloying. The flavor is very agreeable, wholesome, and of the nutty quality characteristic of most dry dates. One of the best of the dry dates in keeping quality. Is a comparatively early-ripening variety, maturing about the middle of October and perhaps earlier. One of the two most productive varieties, said to give an abundant crop every year. Said to be the most salt-resistant variety in high-lying, well-drained land.

**15030. *Kenteeshy*, or *Kentichi*.**

A third-class "dry" variety; fruit about 1½ inches long, slightly more than one-half as wide, oblong or slightly obovoid; dull bay when ripe, the skin remaining yellow; the flesh 1 to 2½ lines thick, becoming hard and dry; the



**15000 to 15210—Continued.**

seed about two-thirds as long as the fruit, one-third to two-fifths as wide as long, broad and rounded at both ends. The stalks and branches of the fruit clusters are dull orange. The stalks are curved, forming nearly a semicircle, but do not hang down below the foliage.

Fruit is small, thin of flesh, and becomes hard and dry almost before it has lost its astringency. It ripens toward the end of October and beginning of November. Moderately sweet and rather tasteless. Yields heavily, being one of the most productive varieties found in Tunis, and is said to give a good crop every year. Reputed to be very alkali resistant.

**15031. *Khadraya*.**

A "dry" date; fruit 35 to 40 mm. long, 17.5 mm. wide, oblong, narrowed at the apex, bright orange before maturity, dull light brown when ripe; seed large, light brown. Branches of fruit clusters bright orange. Very sweet, with a pleasant flavor. Ripens in October.

**15032. *Khalt* (?)****15033. *Khalt Boo Fagoos*.**

A "soft" date; very similar to Boo Fagoos, 42.5 mm. long, 25 mm. wide, generally more or less obovoid, maroon colored when ripe, skin much folded; flesh very firm; seed large. Branches of fruit clusters light orange.

Moderately sweet, with a fine flavor of the Horra type.

**15034. *Khalt Deglaowia*.**

A second-class date of the "soft" type; fruit  $1\frac{2}{3}$  to  $1\frac{3}{4}$  inches long, about one-half as wide, egg-shaped, narrowed from about the middle to the rounded apex, keeping its shape well when preserved, dark maroon purple when ripe, much of the skin loosened into soft blisters; the flesh about 2 lines thick, firm yet tender; the seed about two-fifths as long as the fruit, about one-third as wide as long, cinnamon brown. The stalks and branches of the fruit clusters are light yellow.

The fruit is rather small, with fairly thick, firm flesh. The fine flavor suggests that of Deglet Noor, which it resembles also in the shape of the fruit and the maize-yellow color of the branches of the clusters.

**15035. *Khalt Gama*.**

"Gama" means wheat, and is said to refer to the color of the fruit.

**15036. *Khalt Hameed*.**

A third-class "soft" variety; fruit  $1\frac{2}{3}$  inches long, about one-half as wide, ellipsoidal, generally slightly narrowed at both ends, keeping its shape well when preserved, bright maroon when ripe; the flesh  $1\frac{1}{2}$  lines thick, rather firm, not very sugary; the seed smooth, five-eighths as long as the fruit, about two-fifths as wide as long, widest above the middle.

**15037. *Khalt Harraowia*.**

A second-class "soft" date; fruit  $1\frac{1}{2}$  to over 2 inches long, narrowed from near the base to the somewhat pointed apex, keeping its shape well when preserved, dark-maroon purple when ripe; the flesh 2 to 3 lines thick, firm yet tender, very sugary; the seed one-half to five-ninths as long as the fruit, about one-third as wide as long. The branches of the fruit clusters are orange colored. The crown of foliage is well developed, the leaves large, and the leaflets long and numerous.

The large, handsome fruit somewhat resembles that of Horra, both in appearance and flavor. The flesh is copious, firm yet tender, and contains a great deal of sugar.

**15038. *Khalt Kebeer*.**

A fine, large, reddish brown "soft" date, with small seed, preserving admirably; flavor excellent.

**15039. *Khalt Kentaowia*.**

Occurs in the Jerid; apparently not uncommon at Tozer.



**15000 to 15210—Continued.****15040** *Khalt Mooashem.*

A second-class "soft" date; fruit  $1\frac{3}{8}$  to  $1\frac{7}{8}$  inches long, about one-half as wide, egg-shaped, narrowed from about the middle to the rounded apex, keeping its shape perfectly when preserved; dark prune purple when ripe, the skin mostly adhering very closely to the flesh, conspicuously marked with transverse and longitudinal scars; the flesh about 2 lines thick, firm yet tender; the seed about one-half as long as the fruit, nearly one-half as wide as long, broadest near the middle, light brown, rough. The branches of the fruit clusters are bright orange.

The excellent fruit is characterized by its dark prune color, curiously scarred skin, copious soft flesh, and very sweet, highly attractive flavor. Apparently keeps perfectly.

**15041.** *Kharooby, or Kharroubi.*

A third-class "soft" variety; fruit about 2 inches long, less than two-fifths as wide, oblong, often somewhat wider near the apex than elsewhere, between bay and maroon colored when ripe, the surface shining; the skin conspicuously loosened and remaining light yellow; the flesh 1 to 2 lines thick, rather soft and dark colored; the seed nearly three-fifths as long as the fruit, one-third as wide as long, generally somewhat curved. The stalks and branches of the fruit clusters are orange colored.

Flesh of the ripe fruit of the consistency of jelly, moderately sweet, agreeable in flavor, resembling Lagoo. Said to preserve well. Ripens in October.

**15042.** *Kseba, or (?) Kessebi.*

A second-class "dry" variety; fruit about  $1\frac{1}{2}$  inches long, two-thirds as wide, ovoid or oblong-ovoid, widest below the middle, purplish maroon or bay when ripe; the flesh 2 to  $2\frac{1}{2}$  lines thick, firm but tender; the seed very nearly two-thirds as long as the fruit, two-fifths as wide as long, russet brown. The branches of the fruit clusters are deep orange. The foliage is characterized by having few spines and these are slender and weak.

The fruit, which preserves well, is very sweet and well flavored, in the latter respect being intermediate between Horra and Lagoo. Its fruits ripen in October.

**15043.** *Lagoo.*

A second-class "soft" date; fruit nearly 2 inches long, four-ninths as wide, oblong, tapering slightly to the apex, more or less curved, bay to light maroon colored when ripe, the surface somewhat shining; the flesh about 2 lines thick, rather tough, dark colored; the seeds slender, three-fifths to two-thirds as long as the fruit, two-sevenths to one-third as wide as long, russet brown, its surface roughened with fine wrinkles. The stalks and branches of the fruit clusters are orange colored, the crown of foliage is rather small, the leaves short and rather thick, with long, rather wide leaflets.

One of the earliest kinds; said to ripen by the middle of September. The fruit is of medium length, narrow, and dark colored when ripe. The flesh is rather thin, but soft, very sweet, and of an agreeable, characteristic flavor, somewhat resembling Rhars. It keeps well.

**15044.** *Lemsy.*

A second-class "dry" date; fruit  $1\frac{1}{2}$  to  $1\frac{3}{8}$  inches long, about one-half as wide, elliptical in outline, not conspicuously narrowed toward the apex, often slightly curved, dull purplish maroon when ripe; the flesh 1 to 2 lines thick, becoming very firm and dry; the seed about two-thirds as long as the fruit, generally one-third as wide as long. The branches of the fruit clusters are orange colored.

This is a small, thin-fleshed dry date, sometimes preserved, but usually eaten fresh and even before it is perfectly ripe, as the flesh soon becomes dry and hard. It is deliciously sweet and has a fine flavor, tasting somewhat like chestnuts. Said to mature at the end of August.

**15045.** *Menakher.*

A first-class date of the "soft" type; fruit 2 to  $2\frac{1}{2}$  inches long, about one-half as wide, oblong, broad, and rounded at both ends, keeping its shape well when preserved; brownish maroon when ripe; the flesh 2 to  $2\frac{1}{2}$  lines thick;

**15000 to 15210—Continued.**

the seed broad at both ends, about one-half as long as the fruit, one-half as wide as long, very rough.

The leaves are long and broad, and rather stiff and heavy, crowded with very numerous long leaflets, and their stalks are armed almost thruout their length with long, stout spines. The fruit clusters are short and dense, their stalks bright yellow, rather short, stout, and only moderately curved, so that the bundles do not hang down below the leaves as in the Deglet Noor, but are almost hidden by the foliage.

This produces fruit that is thought by many of the natives, and even by some of the few Europeans who have tasted it, to surpass the Deglet Noor; is at least equal in quality to the Deglet Noor, which it considerably resembles in flavor. In size Menakher dates are  $1\frac{1}{2}$  to nearly 2 times as large as those of the Deglet Noor variety; in color they are generally darker. The seed, tho thick, is short in proportion to the length of the fruit. It is very different in appearance from that of the Deglet Noor. The thick, translucent flesh, altho soft and sirupy, becomes firm when preserved, just as does that of the Deglet Noor. If preserved with any care Menakher dates keep their shape admirably. The skin does not become sticky but remains dry and clean, which is a very desirable property in a dessert fruit. An objectionable feature is the strong development of the white, stringy core. This diminishes perceptibly, however, in thoroly ripe fruit. The consensus of opinion is that in point of appearance, cleanness of skin, keeping quality, and delicacy of flavor the Menakher dates surpass the Deglet Noor, while the latter are superior in the crisper texture of the flesh and small development of the stringy core, or "rag."

This variety ripens its fruits in the latter part of October. It is said to yield little during the first few years after the offshoots are planted, but afterwards surpasses the Deglet Noor in yield, one palm producing sometimes 220 pounds of dates.

**15046. *Mokh Begry*, or *Moukh Begri*.**

A second-class "soft" variety; fruit  $1\frac{1}{2}$  to  $1\frac{1}{2}$  inches long, about three-fourths as wide, broadest at the base, and narrowed thence to the broad, rounded apex, flattened on the sides, bright bay colored when ripe; the flesh very soft, about  $1\frac{1}{2}$  lines thick, rather dark colored, translucent; the seed light brown, one-half to two-thirds as long as the fruit, about twice as long as wide, rounded at both ends. The stalks and branches of the fruit clusters are light orange.

The trees are said not to bear heavily. The dates are rather small and have an unusual shape. The translucent flesh is very soft, but the fruit is said to preserve well. It is very sweet and of delicious flavor, resembling and perhaps equaling the Deglet Noor. Fruit ripens in the latter part of October.

**15047. *Okht Ammary*.**

Said to resemble Ammary, but to be larger. Reported to ripen at the end of September and not to keep well.

**15048. *Okht Fteemy*. (French, *Oukht Ftimi*.)**

A second-class "soft" date; fruit 2 to  $2\frac{1}{2}$  inches long, about two-fifths as wide, oblong, straight, somewhat pointed at the apex, deep purplish maroon when ripe, the surface shining; the flesh  $2\frac{1}{2}$  to 3 lines thick, soft; the seed slender, about one-half as long as the fruit, only two-sevenths as wide as long; dark brown. The stalks and branches of the fruit clusters are rich orange. The many fruit clusters are short-stalked and almost hidden by the foliage.

The very handsome fruit is longer and more slender than that of Fteemy, and is often brighter colored, but is otherwise very similar. In regard to flavor, no difference could be detected. Altho very soft and sirupy, the fruits preserve well. Okht Fteemy palms give a good crop every year and are very productive. These dates are not generally ripe before November. Among the most alkali-resistant varieties.

**15049. *Remta*.**

A third-class "dry" date; fruit  $1\frac{1}{2}$  to  $1\frac{3}{4}$  inches long, about one-half as wide, oblong, somewhat pointed at the apex, generally distinctly constricted a little above the base, dark maroon colored when ripe; the flesh about 1 line thick, rather tough; the seed one-half to two-thirds as long as the fruit,

**15000 to 15210—Continued.**

a little less than one-half as wide as long. The stalks and branches of the fruit clusters are bright orange.

Flesh firm, moderately sweet, with an agreeable flavor resembling that of Thaby. Said to ripen early.

**15050. Rhars.** (Sometimes known as *Rhars* (or *Ghars* or *Cheress*) *Mettigui*.)

A second-class tho well-known date of the "soft" type; fruit  $1\frac{3}{8}$  to over 2 inches long, two-fifths to four-ninths as wide, oblong or inversely egg-shaped, bay colored when ripe, its surface somewhat shining; the flesh 2 to 4 lines thick, very soft; the slender seed five-eighths to three-fifths as long as the fruit, two-sevenths to one-third as wide as long, broad and rounded at both ends. The ripe fruit does not keep its shape well when preserved. The stalks and branches of the fruit clusters are bright orange. The trunk is stout and the foliage luxuriant, numerous long leaves being crowded with long, broad leaflets.

One of the earliest. Said to begin to ripen as early as the end of July. The fruit is large, bay colored when ripe, with copious soft, sirupy, translucent flesh, very sweet and rich-flavored. Not one of the best-keeping sorts.

**15051. Sba Aroossa.**

Said to be rare and of fairly good quality. Reported to be a long, slender date, ripening in October and not keeping well.

**15052. Sayba Boo Dra.**

A third-class "soft" variety; fruit 2 to over  $2\frac{1}{2}$  inches long, about three-sevenths as wide, oblong, somewhat pointed at the apex, usually curved; prune purple when ripe; the surface rather dull; the flesh 3 and  $3\frac{1}{2}$  lines thick, rather firm; the slender seed about one-half as long as the fruit and two-sevenths to one-third as wide as long. The stalks and branches of the fruit clusters are bright orange colored.

The largest of the Tunisian varieties. Flesh thick, rather tough. Flavor agreeable, suggesting Boo Fagoos. Ripens about the end of October.

**15053. Tafazween.** (Also *Tafazaouine*, or *Tafezoween*.)

A first-class "soft" date; fruit 2 to  $2\frac{1}{8}$  inches long, about two-fifths as wide, oblong, tapering slightly from base to apex, bright bay colored when ripe; the skin conspicuously marked with short linear scars; the flesh  $1\frac{1}{2}$  to 2 lines thick; the slender seed about three-fifths as long as the fruit.

The handsome fruit is easily recognized by its long, narrow shape, bright-bay color, and curiously marked skin. It is said to ripen in October. The flesh is soft and translucent, like that of the Deglet Noor. It is very sweet, and of excellent flavor.

**15054. Tantaboosht, or Tantaboucht.**

A third-class "soft" date; fruit nearly spherical, usually somewhat wider than long, 1 to  $1\frac{1}{2}$  inches in greatest diameter, usually widest above the middle, slightly deprest at apex, not keeping its shape well when preserved, very dark brown purple (almost black) when ripe; the flesh 3 to 5 lines thick, very soft and dark colored; the large seed two-thirds to four-fifths as long as the fruit, one-half to two-thirds as wide as long; smooth. The stalks and branches of the fruit clusters are deep orange colored.

A date remarkable for its round shape and very soft, almost black flesh. Flavor peculiar and characteristic, even perfectly ripe fruit retaining a certain amount of astringency.

**15055. Tenaseen.** (French orthography, *Tanessin*, or *Tenassine*.)

A third-class "soft" variety; fruit  $1\frac{3}{8}$  to  $1\frac{7}{8}$  inches long, about one-half as wide, oblong, not keeping its shape well when preserved, black when ripe; the flesh very soft, nearly black; the seed five-ninths to five-eighths as long as the fruit, about one-third as wide as long, rather dark brown.

The flavor of the very sweet, soft, dark-colored flesh suggests Tozer Zaid Safra, but is more agreeable. Is said to ripen in October.

**15056. Thaby, or Dzhabi.**

A second-class "dry" variety; fruit  $1\frac{3}{8}$  inches long or slightly longer, about one-half as wide; oblong, often slightly constricted a little above the base, some-

**15000 to 15210—Continued.**

what pointed at apex; bright reddish brown when ripe; the flesh 1 to  $1\frac{1}{2}$  lines thick, rather tough, the dark-colored outer zone apparently much thicker than the white inner portion. Seed about three-fifths as long as the fruit, rather slender. The stalks and branches of the fruit clusters are rich orange colored.

It is one of the handsomest of the "dry" dates, and one of the most attractive when preserved, keeping perfectly its shape and its beautiful, warm reddish brown color. It has an agreeable, wholesome flavor, and can be eaten in quantity without cloying. It matures in October.

**15057. *Toradant.***

Fruit said to be very large and long, yellow, and of good flavor, ripening at the same time as Fteemy and keeping well.

**15058. *Tozer Zaid Khala.***

A third-class "soft" variety; fruit  $1\frac{1}{2}$  to  $1\frac{3}{4}$  inches long, three-fifths to two-thirds as wide; obovoid or oblong, broad and rounded at apex, not keeping its shape well when preserved; black when ripe; the flesh about 2 lines thick, very soft and sirupy, nearly black; the seed about two-fifths as long as the fruit, about two-fifths as wide as long; dark brown.

Less common than Tozer Zaid Safra, which it very closely resembles in appearance and flavor.

**15059. *Tozer Zaid Safra.***

A third-class "soft" date; fruit  $1\frac{1}{2}$  to  $1\frac{3}{4}$  inches long, generally four-sevenths to two-thirds but sometimes only one-half as wide as long; oblong or oblong egg-shaped, widest near the middle, broad and rounded at the apex, not keeping its shape well when preserved; the flesh  $\frac{1}{2}$  lines thick, extremely soft and sirupy; nearly black; the relatively large seed about one-half as long as the fruit, two-fifths to one-half as wide as long, light brown.

Flavor characteristic, much appreciated by the natives. Generally eaten fresh, but sometimes preserved for a short time. Yields heavily. Fruit ripens in the latter part of October. Said to be one of the four salt-resistant varieties.

**15060. *Tronja*, or *Troundja*.**

A first-class "soft" date; fruit perfectly round, or nearly so,  $1\frac{1}{2}$  to nearly 2 inches in greatest diameter; maroon to prune purple when ripe; the flesh 4 to 5 lines thick, very sugary yet firm; the seed very thick, six-tenths to seven-tenths as long as the fruit and about three-fifths as long as wide; much furrowed. The foliage is dense, the leaves wide, crowded with leaflets, and drooping gracefully at the ends.

The fruit, which ripens in October, is remarkable for its large size, the thickness of its flesh, and its globular shape. The short, very thick seed is also characteristic. The flesh is very firm and even somewhat tough, extremely sweet and very rich flavored, the flavor suggesting that of the Fteemy. Tronja dates can not be eaten in large quantities, as their richness soon cloy, but as a dessert fruit they are very promising.

**15061. *Zrai.***

Fruit said to resemble Deglet Noor in color.

**15062. *Zekry.***

A second-class "soft" date; fruit  $1\frac{1}{2}$  to near  $1\frac{3}{4}$  inches long, about one-half as wide, obovoid, keeping its shape fairly well when preserved, bay to maroon when ripe; the flesh about  $1\frac{1}{2}$  lines thick, moderately soft; the seed about four-sevenths as long as the fruit, about two-fifths as wide as long. The stalks and branches of the fruit clusters are orange colored.

When perfectly ripe the flesh, altho rather thin, is soft and very sweet. The flavor is characteristic, suggesting both chestnuts and persimmons. Said to yield heavily.

**15063. *Menakher* (?).****15064. *Menakher* (?).****15065 to 15210.**

One hundred and forty-six unidentified palms of Mr. Kearney's shipment, which were planted in the Date Garden at Mecca, Cal.

**15211. PHOENIX DACTYLIFERA.****Date.**

From Winters, Cal. Received thru Prof. A. V. Stubenrauch in the spring of 1904. A large male date palm.

**15212. PHOENIX DACTYLIFERA.****Date.**

From Pomona, Cal. Secured by Prof. A. V. Stubenrauch, from the substation at Pomona, Cal., and transplanted to the Date Garden at Mecca, Cal., in 1904 and 1905.

**15213 to 15224. PHOENIX DACTYLIFERA.****Date.**

From Siwah Oasis, Egypt. Received thru Mr. H. I. Rankin, Fayum, Egypt, March 23, 1905, in New York.

A collection of date suckers secured by Mr. Rankin, who made a trip to the oasis of Siwah in February, 1905, to get them. The Arab names are those secured by Mr. Rankin.

**15213.** *Gazaley.***15217.** *Kayby.***15214.** *Frahee.***15218.** *Azawy, or Widy.***15215.** *Saydy.***15219.** Male palms.**15216.** *Roghm Gazal.***15220.** *Saydy.*

"Dried dates from the Oasis of Siwah. According to Cailliaud they are the third in quality of the Siwah dates. While fresh these are packed in baskets to be exported and sold in Egypt." (*Rankin.*)

**15221 to 15224.** (Numbers assigned to four palms of this shipment which arrived without labels.)

**15225 to 15313. PHOENIX DACTYLIFERA.****Date.**

From Bassorah, Arabia. Received thru Mr. H. P. Chalk, American consular agent, Bassorah, June 7, 1905.

A collection of 209 date suckers purchased from the Arabs by Mr. Chalk in Bassorah. The Arab names are those sent in by Mr. Chalk.

**15225.** *Bery.***15228.** *Sayer.***15226.** *Helawy.***15229.** *Gunamy.***15227.** *Hevezy.***15230.** *Khedrwy.*

**15231 to 15313.** (Numbers assigned to 83 palms which lost their labels in transit.)

**15314. PHOENIX DACTYLIFERA.****Date.**

From Marseille, France. Received thru Champagne Brothers (Limited), August 5, 1905.

*Deglet Noor.* Seed.

**15315 to 15332.**

From Tokyo, Japan. Received thru J. Ikeda & Co., seed growers, Waseda, August 14, 1905.

**15315 to 15320.** BRASSICA RAPA.**Turnip.****15315.** *Shogoin.***15318.** *Naga-Kabu.***15316.** *Tennoji.***15319.** *Hino.***15317.** *Omi-Kabu.***15320.** *Kokabu.*



## 15315 to 15332. -Continued.

15321 to 15332. *RAPHANUS* sp.

Radish.

15321. *Nerima Marushiri.*15327. *Tokkuri.*15322. *Nerima Shirihoso.*15328. *Shogoin.*15323. *Nerima Chinaga  
Marushiri.*15329. *Early Sakurashi-  
ma.*15324. *Miyashige.*15330. *Moriguchi.*15325. *Hogo.*15331. *Kurama.*15326. *Extra Early Ku-  
nichi.*15332. *Late Sakurashima.*

## 15333 to 15371.

From Pretoria, Transvaal. Presented by Prof. J. Burt Davy, government agrostologist and botanist, Transvaal Department of Agriculture. Received August 14, 1905.

Forage grasses. The numbers in parentheses are those assigned by Professor Davy.

15333. (*Natal redtop.*) From  
Natal. (291/05)15351. (*Native grass.*) (467/05)15334. *ARISTIDA* sp. From Na-  
tal. (288/05)15352. (*Native grass.*) (469/05)15335. (*Native grass.*) From  
Natal. (305/05)15353. (*Native grass.*) (298/05)15336. (*Natal redtop.*) From  
Natal. (239/05)15354. (*Native grass.*) (464/05)15337. *CHLORIS VIRGATA.* From  
Natal. (290/05)15355. *CHLORIS* sp. (403/05)15338. *ERAGROSTIS* sp. From  
Natal. (289/05)15356. (*Native grass.*) (472/05)15339. (*Native grass.*) (292/05)15357. (*Native grass.*) (466/05)15340. *CHLORIS VIRGATA* ELE-  
GANS (?). (233/05)15358. *ERAGROSTIS* sp. From  
Natal. (289/05)15341. *SETARIA* sp. (300/05)15359. *ERAGROSTIS* sp. (390/05)15342. *ERAGROSTIS* sp. (295/05)15360. (*Native grass.*) (429/05)15343. (*Native grass.*) (386/05)15361. (*Native grass.*) (396/05)15344. *SETARIA AUREA.* From  
Natal. (299/05)15362. *PASPALUM* sp. (234/05)15345. (*Native grass.*) (297/05)15363. (*Native grass.*) (232/05)15346. (*Native grass.*) (389/05)15364. *ERAGROSTIS CURVULA  
VALIDA.* (307/05)15347. (*Native grass.*) (423/05)15365. (*Native grass.*) (425/05)15348. (*Native grass.*) (520/05)15366. *SETARIA SULCATA.* From  
Natal. (312/05)15349. (*Native grass.*) (306/05)15367. (*Native grass.*) (388/05)15350. (*Native grass.*) (471/05)15368. (*Native grass.*) (387/05)15369. (*Native grass.*) From  
Natal. (315/05)15370. (*Native grass.*) (308/05)15371. (*Native grass.*) (296/05)

"Several of the species of *Setaria* and *Eragrostis* are valuable forage grasses. *Setaria setacea* S. P. I. No. 15336 is one of our best forage grasses, but requires a warm climate. It will stand some frost, however, as the roots have not been killed with a temperature of + 18° F. *Setaria aurea* (S. P. I. No. 15344) is a valuable hay grass. S. P. I. No. 15340 and S. P. I. No. 15337, forms of *Chloris virgata*, tho annual, are of great value here, making an excellent and sweet hay. This grass ought to be tried in Arizona, New Mexico, and southern California, and I am sending seed to the Arizona and California stations." (Davy.)

**15372. COLOCASIA ANTIQUORUM ESCULENTUM.****Taro.**

From Mayaguez, P. R. Received thru Mr. H. C. Henricksen, Agricultural Experiment Station, August 15, 1905.

"This is one of the 40(?) varieties of taro cultivated in Hawaii. Roots of this variety, called *Japanese*, were sent from the Hawaiian Experiment Station to the Porto Rico Experiment Station in 1903. It does not compare favorably in Porto Rico with the Trinidad taro of the same type." (*Barrett.*)

**15373. COLOCASIA ANTIQUORUM ESCULENTUM.****Taro.**

From Mayaguez, P. R. Received thru Mr. H. C. Henricksen, Agricultural Experiment Station, August 15, 1905.

"This variety is known as the *Royal* taro in Hawaii. It is one of the few true taros having purplish roots. The Porto Rico Experiment Station received this variety in 1903 from the Hawaiian Experiment Station, but it did not grow satisfactorily in the testing plats at Mayaguez, P. R." (*Barrett.*)

**15374. ARRACACIA ESCULENTA.****Apio.**

From Ponce, P. R. Received thru Mr. J. W. van Leenhoff, August 15, 1905.

"Tho this plant is not cultivated in Porto Rico so widely as in Venezuela, it always sells for a good price in the local market. It grows better in elevated districts, preferring a cool, moist situation. Partial shade seems to be beneficial at low elevations. It should be treated like carrots." (*Barrett.*)

**15375. PYRUS sp.****Pear.**

From Shanghai, China. Received thru Rev. J. M. W. Farnham, August 16, 1905.

**15376. RUBUS sp.****Raspberry.**

From Shanghai, China. Received thru Rev. J. M. W. Farnham, August 16, 1905.

"A berry growing wild on the mountains about 150 miles southwest of Shanghai. The fruit is a little larger than the red raspberry which grows in New England, and has not quite so strong a raspberry flavor." (*Farnham.*)

**15377 to 15422.**

From Mayaguez, P. R. Received from Mr. H. C. Henricksen, of the Porto Rico Experiment Station, thru O. W. Barrett, August 15, 1905.

These varieties comprise a large part of the collection made by Mr. O. W. Barrett while botanist of that station.

**15377. XANTHOSOMA sp.****Yautia.**

*Guayamera Verde.* "A dwarf yautia with pink tubers of first quality; not widely cultivated." (*Barrett.*)

**15378. CALADIUM sp.**

*Brava.* "A weed in fields. Leaves have a coppery luster. The grated yellow corm is used to kill maggots in sores on cattle." (*Barrett.*)

**15379. XANTHOSOMA sp.****Yautia.**

*Orqueta.* "A small yautia with whitish petioles and pale leaves; the tuber is hard, yellow, and of second quality; cultivated in but few districts in Porto Rico." (*Barrett.*)

**15380. XANTHOSOMA sp.****Yautia.**

"A yautia received from the Botanic Gardens, Aburi, Gold Coast, West Africa; it is apparently identical with one of the Jamaican varieties and was very probably introduced into Africa from the West Indies." (*Barrett.*)

**15381. COLOCASIA sp.****Taro.**

*Malanga 2.* "Presented to the Porto Rico Experiment Station by Mr. E. André, of Trinidad." (*Barrett.*)

## 15377 to 15422—Continued.

15382. *COLOCASIA* sp.

Taro.

*Malunga*. "Presented to the Porto Rico Experiment Station by Mr. E. André, of Trinidad." (*Barrett*.)

15383. *XANTHOSOMA* sp.

Yautia.

"A yautia received from Trinidad, where it is known as the *Jamaica Taniar*; this variety, however, was not received in the collection from Jamaica." (*Barrett*.)

15384. *XANTHOSOMA* sp.

Yautia.

"A semicultivated yautia sent from Guatemala by Mr. O. F. Cook; it appears distinct from any other known sort, but of little value as a crop." (*Barrett*.)

15385. *XANTHOSOMA* sp.

Yautia.

*Martinica*. "A first-class yautia widely cultivated in Porto Rico, tho not observed in collections from other West India islands. It has the petioles blotched with rose, maroon, and cream, and the blades are dark green; the smallish tubers are oblong, yellow, and of a firm texture when cooked. Called *Quintal* and *Huero* in some localities." (*Barrett*.)

15386. *XANTHOSOMA* sp.

Yautia.

A first-class yautia obtained in Caracas, Venezuela, in 1903 by Mr. O. W. Barrett. "It attains a height of 5 feet and the largest tubers weigh from 1 to 2 pounds. This is a form of No. 15417 of Porto Rico, Trinidad, Belize, and Cuba; it may be considered the best of all known yautias." (*Barrett*.)

15387. *XANTHOSOMA* sp.

Yautia.

*Amarilla*. "A common yautia in Porto Rico, prized for its drought-resisting and keeping qualities and highly nutritious yellow tubers; it is a small variety and very liable to fungous attacks." (*Barrett*.)

15388. *XANTHOSOMA* sp.

Yautia.

*Gugibrilla*. "A second-class yautia from the Arecibo district of Porto Rico; the long, slender, pinkish tubers are of fair quality; it is one of the varieties of the peculiar flat-leaved *Manola* type." (*Barrett*.)

15389. *XANTHOSOMA* sp.

Yautia.

*Lupillo*. "A yautia probably identical with No. 15417; cultivated at Cidra, P. R." (*Barrett*.)

15390. *XANTHOMOSA* sp.

Yautia.

*Ishua*. "A second-class yautia, not well known; it resembles No. 15388, but has short tubers and a different stooling habit. No. 32 of the Porto Rico Station's collection." (*Barrett*.)

15391. *XANTHOSOMA* sp.

Yautia.

*Malunga Amarilla*. "A yautia received from the Cuban Agricultural Experiment Station; No. 5206 of said station's plant list." (*Barrett*.)

15392. *XANTHOSOMA* sp.

Yautia.

*Vino*. "A dwarf yautia, widely cultivated in Porto Rico; the pink or purplish tubers are of excellent quality for table use but are not produced in sufficient quantity to be found on the market." (*Barrett*.)

15393. *XANTHOSOMA* (?) sp.

Yautia.

*Cinarrona*. "An apparently undescribed species growing in ravines in Porto Rico; it flowers, but probably does not produce seed. The grated corms are used to kill maggots in sores on cattle or horses. (See No. 15378)." (*Barrett*.)

15394. *XANTHOMOSA* sp.

Yautia.

*Guayameva Colorada*. "A common first-class yautia, apparently peculiar to Porto Rico; the mauve or purplish petioles and leaf veins distinguish this sort from all others except No. 15404. The elongated pink tubers are of good size and excellent quality. The leaves attain 6 feet in good soil." (*Barrett*.)

## 15377 to 15422—Continued.

15395. COLOCASIA sp.

Taro.

*Dasheen.* A species of Colocasia, probably undescribed; brought from Trinidad in 1903 by Mr. O. W. Barrett. "This proves a most promising economic, since the tubers are ripened in six to nine months; it can be grown on a variety of soils; the yield in good soil is from 2 to 4 pounds to the hill. It resembles Nos. 15372 and 15373 in producing true tubers like a yautia instead of a large rhizome like a true taro." (*Barrett.*)

15396. XANTHOSOMA sp.

Yautia.

*White Eddoe.* "Sent by Mr. E. André, Port of Spain, Trinidad." (*Barrett.*)

15397. XANTHOSOMA sp.

Yautia.

"An excellent yautia sent by the Jamaica Department of Agriculture. (No. 2, Jamaica.)" (*Barrett.*)

15398. XANTHOSOMA sp.

Yautia.

*Amarilla.* "A small Cuban yautia sent by the Estación Central Agronómica, Santiago de las Vegas, Cuba. Probably identical with No. 15387, but perhaps more resistant to fungous attacks." (*Barrett.*)

15399. XANTHOSOMA sp.

Yautia.

*Guagui.* "A yautia sent by the Estacion Central Agronómica, Santiago de las Vegas, Cuba." (*Barrett.*)

15400. XANTHOSOMA sp.

Yautia.

"A yautia identical [?] with No. 15394, but purchased from Reasoner Brothers, Oneco, Fla., as *Alocasia bataviensis*." (*Barrett.*)

15401. XANTHOSOMA sp.

Yautia.

"A yautia purchased from Reasoner Brothers, Oneco, Fla., as *Alocasia marshalli*. It yields a good-sized, edible tuber of the 'Rolliza' type." (*Barrett.*)

15402. XANTHOSOMA sp.

Yautia.

*Malanga Blanco.* "A yautia received from the Estacion Central Agronómica, Santiago de las Vegas, Cuba." (*Barrett.*)

15403. XANTHOSOMA sp.

Yautia.

"A fine yautia received thru the Jamaica Department of Agriculture. (No. 4, Jamaica.)" (*Barrett.*)

15404. XANTHOSOMA sp.

Yautia.

*Prieta.* "A first-class yautia resembling No. 15394 as regards leaf coloring, but the tubers are orange yellow; a highly prized table variety, but not very productive." (*Barrett.*)

15405. XANTHOSOMA sp.

Yautia.

*Manola*, or *Rolliza Ancha.* "A flat-leaved yautia not well known; the tuber is firm and yellow, but rather small." (*Barrett.*)

15406. XANTHOSOMA sp.

Yautia.

"An excellent variety received from the Jamaica Department of Agriculture. (No. 5, Jamaica.)" (*Barrett.*)

15407. XANTHOSOMA sp.

Yautia.

*Punzera.* "Probably identical with No. 15392." (*Barrett.*)

15408. XANTHOSOMA sp.

Yautia.

*Dominica.* "A very choice variety of the *Amarilla* type, grown on the north side of Porto Rico; the tuber is in some respects the finest flavored and richest of all yautias." (*Barrett.*)

15409. XANTHOSOMA sp.

Yautia.

"A first-class yautia received from the Jamaica Department of Agriculture. (No. 1, Jamaica.)" (*Barrett.*)

## 15337 to 15422—Continued.

## 15410. XANTHOSOMA sp.

Yautia.

*Isleña de Ponce.* "A strong-growing yautia resembling No. 15392, but of two to three times the size. The tuber is of good flavor, pink, and is produced in fair quantity. Overstooling seems to be the principal fault of this variety." (Barrett.)

## 15411. XANTHOSOMA sp.

Yautia.

*Yslaña.* "Received from the Estacion Central Agronómica, Santiago de las Vegas, Cuba. (No. 5207 of the Cuba station's list.)" (Barrett.)

## 15412. XANTHOSOMA sp.

Yautia.

*Belembé.* "A wild or semicultivated yautia, probably *Xanthosoma hastifolium*. The young leaves of this species are preferred by the natives of Porto Rico for use (boiled) as a spinach. This plant flowers freely; it produces no tubers; height, 18 feet 2 inches." (Barrett.)

## 15413. ALOCASIA MACRORHIZA.

"This is semicultivated in some districts as a pig food; the large rhizomes are boiled to destroy the raphides." (Barrett.)

## 15414. XANTHOSOMA sp.

Yautia.

*Palma.* "The largest known Xanthosomas, tho of no great importance horticulturally. Urban considers this *X. violaceum*, but that species is usually considered as comprized by the purple-leaved forms, like Nos. 15394 and 15404. The nearly tuberless rhizome attains a length of 1 to 3 feet and a diameter of 3 to 6 inches. It is used for feeding pigs and poultry when boiled." (Barrett.)

## 15415. XANTHOSOMA sp.

Yautia.

"A fine yautia, received from the Jamaica Department of Agriculture. (No. 6, Jamaica.)" (Barrett.)

## 15416. XANTHOSOMA sp.

Yautia.

*Quintal.* "Probably identical with No. 15385. Named from its believed ability to produce 100 pounds of tubers per plant when very heavily fertilized. The rhizome is frequently eaten, tho not of so delicate a flavor and texture as the tubers." (Barrett.)

## 15417. XANTHOSOMA sp.

Yautia.

*Rolliza.* "This is the best variety native to Porto Rico. It may be grown on a variety of soils. The yield is 2 to 4 pounds per hill. The tubers are of large size, white, mealy, and smooth. The rhizome is also eaten. This is undoubtedly *Xanthosoma sagittifolium* Schott. It occurs in Belize, Trinidad, and Cuba. A very similar form produces larger (?) tubers in Venezuela." (Barrett.)

## 15418. XANTHOSOMA sp.

Yautia.

"A choice yautia, received from the Jamaica Department of Agriculture. (No. 3, Jamaica.)" (Barrett.)

## 15419. XANTHOSOMA sp.

Yautia.

*Blanca.* "A second-class yautia, resembling No. 15417, but not so productive nor so early. The rhizome is poisonous, because of its content of calcium oxalate raphides. The tubers are more slender and rougher than those of the *Rolliza*, No. 15417." (Barrett.)

## 15420. XANTHOSOMA sp.

Yautia.

"A yautia from Belize, probably identical with No. 15417." (Barrett.)

## 15421. XANTHOSOMA sp.

Yautia.

"A yautia introduced into Porto Rico from Trinidad by the writer in 1903. It is very similar to No. 15417, but the tubers appear to vary slightly from yellowish white to pinkish white instead of being of the even white of the *Rolliza*." (Barrett.)

## 15422. XANTHOSOMA sp.

Yautia.

*Red Eddoe.* Presented by Mr. E. André, Port of Spain, Trinidad. (Barrett.)



**15423. NARCISSUS PSEUDO-NARCISSUS.****Daffodil.**

From Santa Cruz, Cal. Received thru Mr. E. Leedham, of the Leedham Bull Company, August 16, 1905.

**15424. MANGIFERA INDICA.****Mango.**

From Lucknow, India. Received thru Mr. Robert Anderson, Lansdowne, Pa., August 21, 1905.

*Bombay (?)*.

**15425 to 15427.**

From Bellingham, Wash. Received thru Mr. H. E. Juenemann, of this Department, August 21, 1905.

**15425.** ROSA sp.

**15427.** RUBUS SPECTABILIS.

**15426.** ROSA sp.

**15428 and 15429. VICIA FABA.****Horse bean.**

From Naples, Italy. Received thru Dammann & Co., August 18, 1905.

**15428.** *Vesce feverole des Champs.*

**15429.** *Vesce feverole petite.*

**15430 to 15445.**

From Bellingham, Wash. Received thru Mr. J. W. M. Smith, August 22, 1905.

**15430 to 15434.** HYACINTHUS  
sp.

**15441 and 15442.** CROCUS sp.

**15443 to 15445.** TULIPA sp.

**15435 to 15440.** NARCISSUS spp.

**15446 to 15458.**

From Clearbrook, Wash. Received thru Mr. George Gibbs, August 21, 1905.

**15446 to 15456.** NARCISSUS spp.

**15457 and 15458.** HYACINTHUS  
sp.

**15459. NARCISSUS TAZETTA ALBA.**

From Alameda, Cal. Received thru Mr. George Rosmarin, Encinal Nursery, August 22, 1905.

**15460 to 15474. Mexican plants.**

From City of Mexico, Mexico. Received from Dr. J. N. Rose, August 25, 1905.

The numbers in parentheses are those of Doctor Rose's notes, which give the exact localities where the various plants were secured.

**15460.** (No. 1178/05.)

**15468.** (No. 1187/05.)

**15461.** (No. 1179/05.)

**15469.** (No. 1188/05.)

**15462.** (No. 1180/05.)

**15470.** (No. 1189/05.)

**15463.** (No. 1182/05.)

**15471.** (No. 1190/05.)

**15464.** (No. 1183/05.)

**15472.** (No. 1194/05.)

**15465.** (No. 1184/05.)

**15473.** (No. 1202/05.)

**15466.** (No. 1185/05.)

**15474.** (No. 1205/05.)

**15467.** (No. 1186/05.)

**15475 to 15477.**

From Paris, France. Received thru Vilmorin-Andrieux & Co., August 26, 1905.

**15475.** CARAGANA ARBORESCENS.

**Siberian pea tree.**

**15476 and 15477.** TRIFOLIUM INCARNATUM.

**Crimson clover.**

**15476.** *Extra Early Red.*

**15477.** *Early White.*

**15478. LILIUM LONGIFLORUM EXIMEUM.****Easter lily.**

Seed grown in the Department greenhouse by Mr. G. W. Oliver. Numbered September 2, 1905.

**15479. LILIUM LONGIFLORUM EXIMEUM GIGANTEUM.****Lily.**

Seed grown in the Department greenhouse by Mr. G. W. Oliver. Numbered September 2, 1905.

**15480 to 15583. ORYZA SATIVA.****Rice.**

From Tanga, German East Africa. Presented by Prof. Dr. A. Zimmermann, of the Kaiserliche Biologische Landwirtschaftliche Institut, Amami, in the spring of 1905.

A collection of native rice varieties. The notes are those given by Doctor Zimmermann.

**15480.**

From Pangani, in the hills, 700 meters high.

**15481.**

Plant from January to March. Grown in Pangani, Mgera, northerly; 1,000 meters high; river valley of the Luhigura (?).

**15482.**

From Pangani, Mohomorra, northward of Useguha Mountains; 400 meters high.

**15483.**

From Pangani Buguru, west of Useguha; altitude 600 meters; river valley of Msangazi.

**15484.**

From Pangani Bondei; altitude 300 meters.

**15485. *Busanga* mixt with *Kwindimba*.**

Glumes of *Busanga* are brown yellow; of *Kwindimba*, gray white. Kernel of *Busanga* is white; of *Kwindimba*, brown. From Lindi.

**15486. *Kwindimba*.**

From Lindi.

**15487. *Namaria*.**

From Lindi. Mixt with *Kwindimba*. Glumes brown; strong thick awn; kernel white with a reddish tinge.

**15488. *Mkenzuri*.**

From Lindi. Slender awn, white kernel. Glumes yellow gold.

**15489. *Mpungarra*.**

From Lindi. Glumes lighter than *Namaria* and *Mkenzuri*. Kernel white and large. Nos. 15485 to 15489 can be distinguished in cooking by specific odors. No one variety of soil is suitable for all conditions. In the valleys they are planted on moist or on sandy soils. In the high altitudes they are sown upon newly cleared land, but are uncertain and are dependent upon the rainfall.

**15490. *Nondo*.**

From Tanga district. Likes water.

**15491. *Sifala*.**

From Tanga district. Requires much water.

**15492. *Nzurinvendo*.**

From Tanga district. Requires much water.

**15493. *Sona*.**

From Tanga district. Requires much water.

**15480 to 15583—Continued.****15494. *Ruvi.***

From Tanga district. Requires much water.

**15495. *Mngoja.***

From Tanga district. Likes water.

**15496. *Gundimba.***

From Mikindani.

**15497. *Sungala.***

From Mikindani. Plant during December or January in black moist soil in valleys.

**15498. *Ralimalia.***

From Matumbi Mariwe, in the district of Kilwa. Plant in heavy soil, giving much water and little sun. Matures in four and a half months after sowing.

**15499. *Bungala.***

From Matumbi Mariwe, in the district of Kilwa. Plant in black soil, with much water and little sun. Matures in five months after sowing.

**15500. *Seina.***

From Matumbi, near Mohora, in the district of Kilwa. Plant in black soil, with plenty of water and little sun. Matures in five and a half months after sowing.

**15501. *Majeya Konoa.***

From Matumbi, near Kiswere, district of Kilwa. Requires good soil, much sun, and little water. Matures in three months.

**15502. *Gundimba.***

From Matumbi, near Kiswere, district of Kilwa. Requires good soil, much sun, little water. Matures in three months.

**15503. *Shindano.***

From Matumbi, near Kiswere, district of Kilwa. Requires good soil, much sun, little water. Matures in three months.

**15504. *Ambari.***

From Tanga district. Likes water.

**15505. *Mkarafun.***

From Tanga district. Likes water.

**15506. *Mbenga Nonda.***

From Tanga district. Likes water.

**15507. *Guniya.***

From Tanga district. Likes water.

**15508. *Mounja Uniko.***

From Tanga district. Likes water.

**15509. *Mchusi.***

From Tengra, near Saadani. Plant in November in sandy loam.

**15510. *Majeya Fundi.***

From Tengra, near Saadani. Plant in November in sandy loam.

**15511. *Majeya Fundi.***

From Tengra, near Saadani. Plant in November in sandy loam.

**15512. *Kijegi.***

From Tengra, near Saadani. Plant in November in sandy loam.

## 15480 to 15583—Continued.

15513 to 15545.

(No data.)

15546.

Plant in wet soil. Grows after rainy season.

15547.

Inferior quality. Requires wet soil. Grows after the rainy season.

15548. *Bungala*.

Grown after rainy season in moist soil.

15549. *Katimuli, Akilimuli, Hahamweli, Tawaka, Ngampenda, Halmilunda*.

Grown on lowlands, and with much rain will grow on the hills: from Mohora district, Rufiji.

15550. *Sena Kilwani*.

Hill-land rice from Mohora district, Rufiji.

15551. *Safala Bokianka Mbwege*.

Hill-land rice from Mohora district, Rufiji.

15552. *Kapora Najiza Kunywa Zarakupata Mpungamuene*.

Hill-land rice from Mohora district, Rufiji.

15553. *Bungala*.

From Mohora district, Rufiji. Lowlands.

15554. *Kaneno Kanenwa*.

From Mohora district, Rufiji. Hills and dry lowlands.

15555. *Nugenwa*.

From Mohora district, Rufiji. Lowlands, without irrigation.

15556. *Kijicho*.

From Mohora district, Rufiji; lowlands or hills.

15557. *Ngengengati*.

Lowlands, Mohora district, Rufiji.

15558. *Schindano*.

Wet lowlands, Mohora district, Rufiji.

15559. *Harala*.

Lowlands, Mohora district, Rufiji.

15560. *Kibaba Rupie*.

Lowlands, Mohora district, Rufiji.

15561. *Mbweke*.

Lowlands, Mohora district, Rufiji.

15562. *Manjano*.

Hills and lowlands, Mohora district, Rufiji.

15563. *Kensi*.

Lowlands, Mohora district, Rufiji.

15564. *Swala*.

Lowlands, Mohora district, Rufiji.

15565. *Kuku*.

Lowlands, Mohora district, Rufiji.

**15480 to 15583—Continued.****15566.** *Ngohe.*

Hills and lowlands. Becomes vigorous. Often planted at the edge of the field.

**15567.** *Borakupata.*

From Morogoro. Opening of the rainy season is sown in damp soil.

**15568.** *Meli.*

From Morogoro. Plant at the commencement of the rainy season in moist lowlands or marshy places.

**15569.** *Malula* and *Marura.*

From Morogoro. Plant at the commencement of the rainy season in moist lowlands or marshy ground.

**15570.** *Sena.*

From Morogoro. Plant in moist ground at the commencement of the rainy season.

**15571.** *Rufiji.*

From Mahenge. Plant in rainy season in heavy, black, wet soil. From five to six months to mature.

**15572.** *Rigubaza.*

From Mahenge. Plant in rainy season in heavy, moist, black soil. Matures in five to six months.

**15573 to 15583.**

From Mahenge. Mature in five to six months. Plant in rainy season in heavy, moist, black soil.

**15573.** *Sena.***15579.** *Ngumbo.***15574.** *Schindano.***15580.** *Satari.***15575.** *Halimaria.***15581.** *Funga.***15576.** *Kapemba.***15582.** *Kingano.***15577.** *Kafinda.***15583.** *Miknambe.***15578.** *Kikalati.***15584.** *LILIUM LONGIFLORUM EXIMEUM GIGANTEUM.***Lily.**

Seedlings raised in the Department of Agriculture greenhouses. Numbered September 1, 1905.

**15585 to 15593.** *NARCISSUS* sp.**Narcissus.**

From Guernsey, England. Received thru W. Mauger & Son, Brookdale Nurseries, August 21, 1905.

**15594 to 15654.**

From Haarlem, Holland. Received thru Mr. C. G. van Tubergen, jr., Zwanenburg Nurseries, September 5, 1905.

Miscellaneous bulbs.

**15594.** *GLADIOLUS ALATUS.***15646 to 15654.** *IRIS* spp.**15595 to 15645.** *TULIPA* spp.**15655.** *AVENA SATIVA.***Oat.**

From Sherman, Tex. Received thru Mr. W. F. Sheldon, September 5, 1905.

**15656.** *PERSEA GRATISSIMA.***Avocado.**

From Miami, Fla. Received thru Col. G. B. Brackett, from Prof. P. H. Rolfs, September 5, 1905.



**15657. NARCISSUS TAZETTA.****Narcissus.**

From Santa Cruz, Cal. Received thru T. Thompson, florist, September 5, 1905.

**15658 to 15667. NARCISSUS spp.****Narcissus.**

From Leyden, Holland. Received thru De Graaf Brothers (Limited), wholesale bulb growers, September 6, 1905.

**15668 and 15669.**

From Chicago, Ill. Received thru the A. Dickinson Co., September 6, 1905.

**15668. DACTYLIS GLOMERATA.****Orchard grass.****15669. PHILEUM PRATENSE.****Timothy.****15670 to 15672.**

From Budapest, Hungary. Received thru Mr. Frank Benton, of the Bureau of Entomology, September 7, 1905.

**15670. CUCURBITA sp.****Squash.**"Large, green, very warty squash. Odd looking. Flesh yellow. Seed taken from squash on sale in market of Venice, Italy, August, 1905." (*Benton.*)**15671. CUCURBITA sp.****Squash.**"Small, grayish-green, flat squash on sale in market of Venice, Italy, August, 1905." (*Benton.*)**15672. CUCUMIS MELO.****Muskmelon.**"Muskmelon from market at Trieste, Austria, August, 1905. Probably brought up from Palmafia. Sold under the name *Zaba*. Medium to large-sized greenish yellow melon of fairly good quality; very warty, or covered with knobby excrescences." (*Benton.*)**15673 to 15682.**

From the Office of Gardens and Grounds, turned over to the Office of Seed and Plant Introduction, September 8, 1905.

**15673. MONSTERA DELICIOSA.****15678. ALOCASIA CUPREA.****15674. SMILAX MEDICA.****15679. DIEFFENBACHIA SEGUINE.****15675. SANSEVIERIA CYLINDRICA.****15680. HOMERIA DISCOLOR.****15676. CLIVIA MINIATA.****15681. PIER NIGRUM.****15677. MARANTA LINEATA ROSEA.****15682. XANTHOSOMA LINDENI.****15683 to 15697.**

From Sydney, New South Wales. Presented by Mr. J. H. Maiden, director and government botanist, Botanic Gardens. Received September 7, 1905.

**15683. ACACIA CUNNINGHAMII.****15691. CORDYLINE OBTECTA.****15684. ACACIA CULTRIFORMIS.****15692. CORDYLINE STRICTA.****15685. ACACIA NERIIFOLIA.****15693. FICUS RUBIGINOSA.****15686. CALLITRIS CALCARATA.****15694. PODOCARPUS ELATA.****15687. CALLITRIS ROBUSTA.****15695. STERCULIA ACERIFOLIA.****15688. CASUARINA STRICTA.****15696. TELOPIA SPECIOSISSIMA.****15689. CASUARINA TORULOSA.****15697. MACADAMIA TERNIFOLIA.****15690. CORDYLINE AUSTRALIS.****15698 to 15744.**

From Hillegom, Holland. Received thru R. Van der Schoot &amp; Son, September 11, 1905.

**15698 to 15709. NARCISSUS spp.****15739 to 15743. IRIS HISPANICA.****15710 to 15738. TULIPA spp.****15744. NARCISSUS sp.**

**15745. *Physalis* sp. Ground cherry.**

From Lima, Peru. Received thru W. R. Grace &amp; Co., September 11, 1905.

*Capuli.***15746. *Lilium longiflorum* eximium. Easter lily.**

From Tarrytown, N. Y. Received thru F. R. Pierson &amp; Co., September 11, 1905.

**15747 to 15749. *Theobroma cacao*. Cacao.**

From Trinidad, British West Indies. Received thru Prof. J. H. Hart, Trinidad Botanical Gardens, September 11, 1905.

**15747.** *Calabacillo.***15749.** *Criollo.***15748.** *Forastero.***15750. *Pisum* sp. Pea.**

From Gyangtse, Tibet. Received from Captain O'Connor, of the British Indian army, thru Mr. M. A. Carleton, cerealist, September 8, 1905.

**15751. *Beschorneria bracteata*.**

From Nice, France. Received thru Mr. A. Robertson-Proschowsky, September 15, 1905.

**15752.**

From Richmond, Va. Received thru T. W. Wood &amp; Sons, September 15, 1905.

*Wood's Grain Pasture Mixture*, said to be a mixture of wheat, barley, rye, winter turf oats, and hairy vetch.**15753 to 15758.**

From Shanghai, China. Received thru Rev. J. M. W. Farnham, September 15, 1905.

Seeds obtained 150 miles southwest of Shanghai, except 15753.

**15753.** *Amygdalus persica*.**Peach.****15754.** *Amygdalus persica*.**Peach.****15755.** *Cucumis melo*.**Muskmelon.****15756.** *Cucumis melo*.**Muskmelon.****15757.** *Cucumis melo*.**Muskmelon.****15758.** *Citrullus vulgaris*.**Watermelon.****15759 to 15761. *Oryza sativa*. Rice.**

From Kobe, Japan. Presented by Mr. Thomas F. McGrath, of the China and Japan Trading Company, of Kobe, Japan, thru Dr. W. H. McGrath, Delaware avenue and Market street, Camden, N. J., and Mr. T. F. Townsend, United States Weather Bureau, Philadelphia, Pa. Received August 1, 1905.

**15759.** Early glutinous rice. "Tastes better than ordinary rice." (*McGrath.*)**15760.** Later glutinous rice.**15761.** Early ordinary rice.**15762 and 15763.**

From the greenhouses of the Department of Agriculture. Received September 18, 1905.

**15762.** *Homalomena wallisi*.**15763.** *Dieffenbachia* sp.

**15764 to 15766.**

From Hungary and Bulgaria. Secured by Mr. Frank Benton, of the Bureau of Entomology, and received September 19, 1905.

**15764.** CITRULLUS VULGARIS.

**Watermelon.**

From Godollo. Small, round melon; dark green, with red flesh, thin rind, and brown seeds; small; quality excellent; quite sweet and juicy. Collected August 24, 1905. (No. 6.)

**15765.** CUCUMIS MELO.

**Muskmelon.**

From Budapest. Small, yellowish green, closely netted, quite aromatic. Flesh green, quite juicy, tender, and of excellent quality. Seed from melon purchased on the market. (No. 7.)

**15766.** CITRULLUS VULGARIS.

**Watermelon.**

From Sophia, Bulgaria. Yellow-cored, medium-sized, good quality. Flesh lemon yellow or light greenish yellow. (No. 9.)

**15767 to 15772. NARCISSUS spp.**

**Narcissus.**

From Ettrick, Va. Received thru Post Brothers, September 19, 1905.

**15773 and 15774. NARCISSUS spp.**

**Narcissus.**

From Santa Cruz, Cal. Received thru Mr. E. Leedham, of the Leedham Bulb Company, September 21, 1905.

**15775. ZEA MAYS.**

**Corn.**

From Adrianople, Turkey. Received thru Mr. Frank Benton, of the Bureau of Entomology, September 21, 1905.

"Small, orange-yellow flint corn, said to withstand drought well. Stalks grow about 4 feet tall. The region about Adrianople is a very dry one. (No. 10.)" (Benton.)

**15776. CUCUMIS MELO.**

**Muskmelon.**

From Constantinople, Turkey. Received thru Mr. Frank Benton, September 21, 1905.

"Smooth skin, yellow outside; rather large, oval form; flesh greenish white, juicy and excellent flavor. (No. 11.)" (Benton.)

**15777. OPUNTIA GYMNOCARPA.**

**Prickly pear.**

From Nice, France. Received thru Dr. A. Robertson-Proschowsky, September 22, 1905.

**15778. ORYZA SATIVA.**

**Rice.**

From Macassar, Celebes. Received thru Mr. Karl Auer, United States consular agent, September 5, 1905.

**15779. CAPRIOLA DACTYLON.**

**Bermuda grass.**

From New York, N. Y. Received thru J. M. Thorburn & Co., September 28, 1905.

**15780. DIOSPYROS LOTUS.**

**Black jube.**

From Jamaica Plain, Mass. Received from the Arnold Arboretum, September 28, 1905.

**15781. ADONIS AMURENSIS.**

From London, England. Received thru William Cutbush & Son, Highgate Nurseries, September 28, 1905.

**15782 to 15787. ARACHIS HYPOGAEA.****Peanut.**

From Marseille, France. Received thru Hon. Robert P. Skinner, United States consul-general, September 28, 1905.

**15782.** *First-class Java.***15784.** *Java.***15783.** *Pondicherry.***15785.** *Gambia.*

"One of the best of the edible oil nuts from the West Coast of Africa."  
(*Skinner.*)

**15786.** *Ruffisque.*

"One of the best of the edible oil nuts from the West Coast of Africa."  
(*Skinner.*)

**15787.** *Chinese.*

"A low-grade nut for industrial oil only." (*Skinner.*)

**15788. TRITICUM DURUM.****Macaroni wheat.**

From Fort Collins, Colo. Received thru Mr. O. B. Underwood, February, 1905.

**15789 to 15796.**

From Gotha, Orange County, Fla. Received thru Mr. H. Nehrling, Palm Cottage Experiment Gardens, September 30, 1905.

**15789.** *ALOCASIA* sp. (?).**15790.** *XANTHOSOMA MACULATUM.***Yautia.****15791.** *COLOCASIA EUCHLORA* (?).**Taro.****15792.** *XANTHOSOMA* sp.**Yautia.**

From Florida; said to have been cultivated by the Seminoles; common in old Florida gardens.

**15793.** *XANTHOSOMA ROBUSTUM* (?).**Yautia.****15794.** *ALOCASIA VIOLACEA* (?).**15795.** *COLOCASIA FONTANESII.***Taro.****15796.** *COLOCASIA ILLUSTRIS.***Taro.****15797 to 15802.**

From Fair Oaks, Cal. Received thru Mr. F. McMillan, October 2, 1905.

**15797.** *AVENA SATIVA.***Oat.**

*Belgian Winter.* Grown from S. P. I. No. 9878.

**15798.** *AVENA SATIVA.***Oat.**

*Appler Rustproof.* Grown from S. P. I. No. 11722.

**15799.** *HORDEUM VULGARE.***Barley.**

*Tennessee Winter.* Grown from S. P. I. No. 11658.

**15800.** *SECALE CEREALE.***Rye.**

*Abruzzes.* Grown from S. P. I. No. 10366.

**15801.** *TRITICUM VULGARE.***Wheat.**

*Freres.* Grown from S. P. I. No. 11714.

**15802.** *TRITICUM VULGARE.***Wheat.**

*Chul-bidai.* Grown from S. P. I. No. 9131.

**15803 to 15805.**

From Mayaguez, P. R. Received thru the Agricultural Experiment Station, October 3, 1905.

**15803.** *XANTHOSOMA* sp. (?).**Yautia.**

"Probably identical with No. 15414." (*Barrett.*)

## 15803 to 15805—Continued.

15804. *XANTHOSOMA SAGITTIFOLIUM*.

Yautia.

"From the Alta Vera Paz district of Guatemala. The yellow tubers seem to distinguish this from all other known sorts having reddish petioles." (*Barrett*.)

15805. *DRACONTIUM ASPERUM*.

"Guapa."

"Resembles *Amorphophallus*, which was discovered on the upper Amazon and which appears to occur only in Porto Rico and Brazil. The large corn, when well matured, is cooked by the natives, and may be compared to squash in appearance, but has a strong flavor not usually relished at the first taste. The single leaf attains a height of 8 feet. The fetid effluvium of the flower is poisonous." (*Barrett*.)

15806. *HYACINTHUS ORIENTALIS ALBULUS*.

Hyacinth.

From Boston, Mass. Received thru R. & J. Farquhar & Co., October 2, 1905.

## 15807 and 15808.

From Palm Springs, Cal. Received from Dr. Welwood Murray, thru Mr. T. H. Kearney, October 2, 1905.

15807. *CHILOPSIS SALIGNA*.

Desert willow.

An ornamental shrub for desert regions.

15808. *PARKINSONIA* sp.

— Palo verde.

An ornamental desert shrub.

## 15809 to 15817

From Hiroshima, Japan. Presented by Mr. J. T. Meyers. Received September 29, 1905.

15809. *ERIOBOTRYA JAPONICA*.

Loquat.

15810. *PRUNUS* sp.

Japanese bush cherry.

"These (15809 and 15810) are both nursery plants, the '*Uura*' (15810) probably thriving under such treatment as would be given young cherry trees." (*Meyers*.)

15811. *BRASSICA* sp.

Turnip.

*Shogo*.

15812. *BRASSICA PE-TSAI*.

Pe-tsai cabbage.

15813. *BRASSICA* sp.

Turnip.

*Mammoth Red*.

15814. *RAPHANUS* sp.

Radish.

*Sakura*.

15815. *RAPHANUS* sp.

Radish.

*Moriguchi*.

15816. *CUCURBITA* sp.

Squash.

*Tropical*.

15817. *CUCURBITA* sp.

Squash.

*Kyoto*.

15818 to 15820. *FELJOA* sp.

"Guayabilla."

From Buenos Aires, Argentina. Received thru Dr. Carlos Spegazzini, botanist of the Department of Agriculture, October 5, 1905.

15818. *Large*.15820. *Small or Winter*.15819. *Smooth or Manzana*.



**15821 to 15824.**

From Trebizond, Asiatic Turkey. Secured by Mr. Frank Benton, of the Bureau of Entomology. Received October 2, 1905.

Seeds obtained from Mr. Dem. Ch. Papathopoulos, of Samsoun, Asiatic Turkey.

**15821.** *HORDEUM* sp.

**Barley.**

"Said to be of superior quality; not used as a forage crop, and the grain exported for use in the manufacture of beer, being especially suited for this." (No. 12.)

**15822 to 15824.** *PAPAVR SOMNIFERUM.*

**Opium poppy.**

**15822.** - *White-seeded.*

Grown near Samsoun, on the south coast of the Black Sea, Turkey in Asia. (No. 13.)

**15823.** *Mixt.*

Grown near Samsoun, Turkey in Asia. (No. 14.)

**15824.** *Blue-seeded.*

Grown near Samsoun, Turkey in Asia. (No. 15.)

**15825. ANDROPOGON SORGHUM.**

**Milo.**

From Mecca, Cal. Received thru Brauckman Brothers, August 7, 1905.

**15826. FESTUCA GIGANTEA.**

From Agricultural College, Mich. Received thru Dr. W. J. Beal, September 20, 1905.

**15827. CHAETOCHELOA ITALICA.**

**Millet.**

From St. Louis, Mo. Grown by Mr. W. J. Magee in 1904. Received September, 1905.

"The grain of the Ainu Japanese people. This sample was grown from Ainu seed." (Magee.)

**15828. SCHOENOCALON OFFICINALE (?)**

**"Cebadilla."**

From Vera Cruz, Mexico. Received thru Hon. William W. Canada, United States consul, October 5, 1905.

**15829. HORDEUM VULGARE.**

**Barley.**

From Manhattan, Kans. Received thru Mr. A. M. Ten Eyck, October 6, 1905.

*Tennessee Winter.*

**15830. HORDEUM VULGARE.**

**Barley.**

From Westminster, Md. Received thru Mr. H. L. Rhinehart, October 6, 1905.

*Tennessee Winter.*

**15831. AMYGDALUS COMMUNIS.**

**Almond.**

From Grazalementa, near Ronda, Spain. Received thru Mr. David Fairchild, October 9, 1905.

"This almond, a single tree of which stands in the 'huerta' of Señor Félix Enriquez, is, altho small, the highest-priced almond raised in the region, and conforms in shape and texture to the *Jordan* almond of Malaga. Its unusually thin shell and especially delicate kernel should make it of special value in California, where the tendency of these introduced hard-shelled almonds seems to be to become larger and coarser. This almond may develop in California into a larger sized superior type of *Jordan* almond." (Fairchild.)

**15832. AMYGDALUS COMMUNIS.****Almond.**

From Ubrique, near Villa Martin, Spain. Received thru Mr. David Fairchild, October 9, 1905.

"A thin-skinned, fine type, of which few trees exist in Ubrique." (*Fairchild.*)

**15833 to 15837. AMYGDALUS COMMUNIS.****Almond.**

From Grazalema, near Ronda, Spain. Received thru Mr. David Fairchild, October 9, 1905.

Almonds in the shell, purchased of Señor Felix Enriquez. "These five types, coming probably from seedling trees, are valuable for the production of seedlings, which may be better adapted to Californian conditions than the Jordan almond previously imported." (*Fairchild.*)

**15833.** *Larga.***15835.** *Malagueña.***15834.** *Almendron.***15836.** *Fino.*

"The Fino type is similar to No. 15831, and is the highest-priced almond in Grazalema." (*Fairchild.*)

**15837.** *Mollar Chico.*

"Soft-shelled, very small almond, of delicious texture." (*Fairchild.*)

**15838. TACCA PINNATIFIDA.****Fiji arrowroot.**

From Oneco, Fla. Received thru Reasoner Brothers, Royal Palm Nurseries, October 9, 1905.

**15839 to 15843. OPUNTIA spp.****Prickly pear.**

From Seville, Spain. Received thru Mr. Ambrosio Eschauzier, October 9, 1905.

**15839.** *Españoles.*

"A variety said to yield abundantly fruits of good flavor; not so well suited for fences as the more spiny varieties." (*Eschauzier.*)

**15840.** *Americanos.***15842.** *Tintillas, or Vaejar.***15841.** *Moscuel, or Malagueños.***15843.** *Franceses.*

"Nos. 15842 and 15843 are used for hedges more than for fruit, on account of their large size and spinness." (*Eschauzier.*)

**15844 to 15848. NARCISSUS spp.****Narcissus.**

From Santa Cruz, Cal. Received thru the Leedham Bulb Company, October 7, 1905.

**15849. COCHLEARIA OFFICINALIS.****Scurvy grass.**

From London, England. Received thru Barr & Sons, October 9, 1905.

The famous scurvy grass, which is one of the cruciferous order to which the cresses belong, is found in England in three varieties. Its habit is to grow near the seashore; consequently, it is almost the first plant which a suffering crew would find ready to hand on landing. It is seen along the muddy banks of rivers and on seashores, especially near Lymington, in parts of Wales, and in Cumberland. One variety grows on the Scotch mountains. It is not a "grass" in any sense, but an upright plant with spoon-shaped leaves and large bunches of white and rather pretty flowers. The small species found on the Scotch hills is the Greenland scurvy grass.

**15850. OPUNTIA FICUS INDICA.****Prickly pear.**

From Catania, Sicily. Received thru Charles Beek, esq., manager for the Duke of Bronte, Castel di Maniace, October 10, 1905.

Reputed at Catania to be the best sort grown in Sicily; fruit very sweet; seed small, probably abortive; color, pale yellow.

**15851. CYTISUS SCOPARIUS.****Scotch broom.**

From New York, N. Y. Received thru J. M. Thorburn &amp; Co., October 10, 1905.

**15852. CENTROSEMA PLUMIERI.**

From Mayaguez, P. R. Received thru Mr. H. C. Henricksen, horticulturist of the Agricultural Experiment Station, October 10, 1905.

From a vine grown from seed brought from St. Vincent, British West Indies, in 1903, by Mr. O. W. Barrett, botanist and entomologist of the Porto Rico Experiment Station. "This plant is giving excellent results as a cover crop in both Porto Rico and Hawaii, and is worthy of trial in the Southern States." (*Barrett.*)

**15853 to 15874.**

From McPherson, Kans. Received thru Mr. L. A. Fitz, October 6, 1905.

**15853. TRITICUM MONOCOCCUM.****Einkorn.**

Fourth crop from German seed. (C. I. No. 1781.)

**15854. TRITICUM MONOCOCCUM.****Einkorn.**

Fourth crop from seed found mixt with oats, S. P. I. No. 3676. (C. I. No. 2226.)

**15855. TRITICUM MONOCOCCUM.****Einkorn.**

First crop from S. P. I. No. 10474. (C. I. No. 2433.)

**15856 to 15864. AVENA SATIVA.****Oat.****15856. Burt.**

Second crop from seed from Virginia Agricultural Experiment Station, Blacksburg, Va. (C. I. No. 293.)

**15857. Sixty-Day.**

Third crop from S. P. I. No. 5938. (C. I. No. 165.)

**15858. Red Algerian.**

Second generation from S. P. I. No. 10269. (No. C. I. 337.)

**15859. Texas Red.**

From Agricultural Experiment Station seed, Manhattan, Kans.

**15860. Danish.**

First generation from New Zealand seed, S. P. I. No. 12877.

**15861. Dun.**

First generation from New Zealand seed, S. P. I. No. 12878.

**15862. Sparrowbill.**

First generation from New Zealand seed, S. P. I. No. 12879.

**15863. Canadian.**

First generation from New Zealand seed, S. P. I. No. 12880.

**15864. White Tartar.**

First generation from New Zealand seed, S. P. I. No. 12881.

**15865. TRITICUM SPELTA.****Spelt.**

Fourth generation from seed from Agricultural Experiment Station, Pullman, Wash. (C. I. No. 1772.)

**15866. HORDEUM VULGARE.****Barley.***Tennessee Winter.* First generation from S. P. I. No. 11780. (C. I. No. 2577.)**15867. HORDEUM DISTICHUM NUTANS.****Two-row barley.***Hanna.* Third generation from S. P. I. No. 9133. (C. I. No. 226.)

**15853 to 15874—Continued.****15868. SECALE CEREALE.****Rye.**

Fourth generation from Russian seed, obtained at the Paris Exposition. (C. I. No. 13.)

**15869. SECALE CEREALE.****Rye.**

Fourth generation from Russian seed obtained at the Paris Exposition. (C. I. No. 1.)

**15870 to 15874. TRITICUM VULGARE.****Wheat.****15870. Kharkof.**

Fourth generation from S. P. I. No. 7467. (C. I. No. 1583.)

**15871. Turkey.**

Fourth generation from seed from Harvey County, Kans. (C. I. No. 1558.)

**15872. Uta.**

Fourth generation from S. P. I. No. 5638. (C. I. No. 1439.)

**15873. Crimée.**

Fourth generation from S. P. I. No. 5636. (C. I. No. 1437.)

**15874. Kharkof.**

Fourth generation from S. P. I. No. 5641. (C. I. No. 1442.)

**15875. BROMUS PACIFICUS.**

From Sitka, Alaska. Received thru Prof. C. C. Georgeson, Agricultural Experiment Station, October 13, 1905.

**15876 to 15879. MUSA spp.****Banana.**

From Manila, P. I. Received thru Mr. William S. Lyon, Bureau of Agriculture, October 16, 1905.

**15876. Carinosa.****15878. La Gloria.****15877. Lucatan.****15879. Bumbulan.****15880. TAMARINDUS INDICA.****Tamarind.**

From Manila, P. I. Received thru Mr. William S. Lyon, Bureau of Agriculture, October 16, 1905.

**15881. GARCINIA MANGOSTANA.****Mangosteen.**

From Port of Spain, Trinidad. Received thru Prof. J. H. Hart, Trinidad Botanical Department, October 21, 1905.

**15882. KUNZEA POMIFERA.**

Received by the Office of Grass and Forage Plant Investigations without definite information as to the sender, October 17, 1905.

"Dense, prostrate, sand-binding plant. Grows only on sand hammocks, near the seacoast (in South Australia). Bears large quantities of edible berries in clusters of five or six. *Muntries* of natives; *native apples* of whites. Fruits have the odor and taste of apples."

**15883. OENOTHERA OVATA.****Evening primrose.**

From Santa Cruz, Cal. Received thru Mr. George J. Streater, October 17, 1905.

**15884. BROMUS INERMIS.****Smooth brome-grass.**

From Chicago, Ill. Received thru Mr. A. Dickinson, October 16, 1905.

**15885. HEVEA sp.****Para rubber.**

From Amherst, Lower Burma. Received thru Mr. G. N. Collins, of the Bureau of Plant Industry, October 19, 1905.

"These plants were grown from seed sent by Mr. W. S. Todd, Amherst, Lower Burma. The trees from which the seed came were doubtless grown from seed distributed thruout India by the British Government many years ago." (*Collins.*)

**15886. DURIO ZIBETHINUS.****Durian.**

From Singapore, Straits Settlements. Presented by Mr. G. O. Blacker. Received October 19, 1905.

**15887. (Undetermined.)****Bean.**

From Chehkiang, China. Presented by Dr. S. P. Barchet, of the American consulate, Shanghai. Received October 21, 1905.

Stock feed bean. "This bean is found on the market in the west of Chehkiang Province, and is worth further investigation. It is sown broadcast in rice fields about the time they are being drained, two or three weeks before harvesting. Horses and cattle are fond of this plant, i. e., they eat it greedily, green or cured, with or without the bean." (*Barchet.*)

**15888. PANICUM FRUMENTACEUM.****Millet.**

From Kin-hua-fu, Chehkiang, China. Presented by Dr. S. P. Barchet. Received October 21, 1905.

"A valuable variety of small glutinous grain millet grown in the western part of Chehkiang. Used as fodder and for brewing a beer tasting like wine." (*Barchet.*)

**15889. ALOCASIA sp.**

From Mayaguez, P. R. Received thru Mr. D. W. May, of the Agricultural Experiment Station, October 24, 1905.

"A fine ornamental, having the leaves (both sides) and petioles of a shining-purple shade. Height, 3 to 5 feet. Rhizome very poisonous by reason of its raphides." (*Barrett.*)

**15890 to 15925.**

From Ukiah, Cal. Received thru Mr. Carl Purdy, October 23, 1905.

15890 to 15895. *LILIUM* spp. 15905 to 15925. *TULIPA* spp.

15896 to 15904. *HYACINTHUS* sp.

**15926. PHASEOLUS RADIATUS.****Mung bean.**

From Augusta, Ga. Received thru the N. L. Willet Drug Company, October 21, 1905.

**15927. CYTISUS PROLIFERUS ALBUS.****Tagasaste.**

From the Canary Islands. Presented by Capt. Rosendo Torras, Brunswick, Ga., thru Hon. W. G. Brantley. Received October 20, 1905.

**15928. PINUS PARVIFLORA.****Pine.**

From Washington, D. C. Received October 24, 1905.

Seed collected from a tree growing in the grounds of the United States Department of Agriculture.

**15929. CITRULLUS VULGARIS.****Watermelon.**

From Dzansoul, Caucasus, Russia. Received thru Mr. Frank Benton, of the Bureau of Entomology, October 24, 1905.

"Grown at an altitude of 4,000 feet. Large, yellow-cored, slightly oval, with light-green skin and thin rind. (No. 16.)" (*Benton.*)



**15930. CITRULLUS VULGARIS.****Watermelon.**

From Dzansoul, Caucasus, Russia. Received thru Mr. Frank Benton, October 24, 1905.

"Alternate stripes of dark and light green, round, good quality. Small, yellow-cored. Grown at altitude of 4,000 feet. (No. 17.)" (*Benton.*)

**15931. PHYSALIS sp.****Ground cherry.**

From Bortschka, Caucasus, Russia. Received thru Mr. Frank Benton, October 24, 1905.

"Found growing wild on the south side of Tschoroch River some miles above Bortschka, southwestern Caucasus. Elevation about 2,000 feet. Fruit not edible but quite ornamental, being bright crimson in color, with large crimson seed pods, while leaves of plant are still green. (No. 18.)" (*Benton.*)

**15932. ACER CIRCINATUM.****Maple.**

From Clearbrook, Wash. Received thru Mr. George Gibbs, October 21, 1905.

**15933 to 15940.**

From Shanghai, China. Received thru Rev. J. M. W. Farnham, of the China Tract Society, October 26, 1905.

**15933.** LILIUM sp.**15937.** CUCURBITA sp.**15934.** (Undetermined.)**15938.** (Undetermined.)**15935.** AMYGDALUS PERSICA.**15939.** (Undetermined.)**15936.** (Undetermined.)**15940.** (Undetermined.)**15941. COLOCASIA ANTIQUORUM ESCULENTUM.****Taro.**

From Gotha, Fla. Presented by Mr. H. Nehrling. Received October 26, 1905.

Wild taro, erroneously called "Tanyah."

**15942 and 15943. LILIUM LONGIFLORUM hyb.****Lily.**

From Bellingham, Wash. Received thru Mr. John W. Macrae Smith, October 11, 1905.

**15942.** LILIUM LONGIFLORUM EXIMUM GIGANTEUM.

Grown in one year from S. P. I. No. 11591.

**15943.** LILIUM LONGIFLORUM MULTIFLORUM.

Grown in one year from S. P. I. No. 11794.

**15944. LILIUM CANDIDUM.****Lily.**

From Olympia, Wash. Received thru Mr. B. F. Denton, September 14, 1905.

**15945 and 15946. CYNARA SCOLYMUS.****Artichoke.**

From Paris, France. Received thru Vilmorin-Andrieux & Co., October 27, 1905.

**15945.** *Large Flat Brittany.***15946.** *Large Globe, or Paris.***15947 to 15954.**

From Hamel, West Australia. Received thru Mr. George F. Berthoud, director of the State farm, October 26, 1905.

**15947.** ATRIPLEX HOLOCARPA.**15952.** DANTHONIA SEMIANNULARIS.**15948.** ATRIPLEX LEPTOCARPA.**15953.** CLIANTHUS DAMPIERII.**15949.** ANDROPOGON SERICEUS.**15954.** SWAINSONA MACCULLOCHIA.**15950.** ASTREBLA TRITICOIDES.**15951.** MICROLAENA STIPOIDES.

**15955. ELYMUS CANADENSIS.****Wild rye.**

From Manistee, Mich. Received thru Mr. Stephen Cahill, October 26, 1905.

**15956 to 16128. BROMUS spp.****Brome-grass.**

From Cambridge, England. Presented by Prof. Marshall Ward, of the Botanic Gardens. Received October 28, 1905.

Sample packets of the following varieties of *Bromus* gathered from various parts of the world:

- 15956. *BROMUS* sp., Switzerland, 1902. (186)
- 15957. *BROMUS* sp., St. Petersburg, 1903. (229)
- 15958. *BROMUS* sp., St. Owens Bay, Jersey. (240)
- 15959. *BROMUS* sp., St. Owens Bay, Jersey, 1903. (241)
- 15960. *BROMUS* ADOENSIS, Kew, 1902. (9)
- 15961. *BROMUS* ALOPECURUS, Lisbon, 1903. (216)
- 15962. *BROMUS* ALTISSIMUS, H. & S., 1903. (230)
- 15963. *BROMUS* ANDINUS, Stockholm, 1904. (252)
- 15964. *BROMUS* ANGUSTIFOLIUS, Berlin, 1902. (10)
- 15965. *BROMUS* ANGUSTIFOLIUS, Heidelberg, 1903. (215)
- 15966. *BROMUS* ARDUENNENSIS, H. & S., 1902. (11)
- 15967. *BROMUS* ARDUENNENSIS, Paris, 1902. (12)
- 15968. *BROMUS* ARDUENNENSIS, Schroeter, 1903. (13)
- 15969. *BROMUS* ARDUENNENSIS, Brussels, 1902. (184)
- 15970. *BROMUS* ARDUENNENSIS VILLOSUS, Brussels, 1902. (185)
- 15971. *BROMUS* ARENARIUS, Sydney, 1902. (210)
- 15972. *BROMUS* ARVENSIS, Sutton, 1901. (128)
- 15973. *BROMUS* ASPER, Coe Fen., Cambridge, 1901, A. H. (1)
- 15974. *BROMUS* BIEBERSTEINII, Schroeter, 1902. (14)
- 15975. *BROMUS* BRACHYSTACHYS, Upsala, 1902. (16)
- 15976. *BROMUS* BREVIARISTATUS, Rocky Mountains, 1902. (15)
- 15977. *BROMUS* BREVIARISTATUS, Kew, 1902. (150)
- 15978. *BROMUS* BRIZAEFORMIS, Sutton, 1901. (129)
- 15979. *BROMUS* CANADENSIS, Hamburg, 1902. (28)
- 15980. *BROMUS* CANADENSIS, Glasnevin, 1902. (29)
- 15981. *BROMUS* CANADENSIS, St. Petersburg, 1902. (30)
- 15982. *BROMUS* CANADENSIS, Sutton, 1901. (130)
- 15983. *BROMUS* CANADENSIS, Naples, 1904. (247)
- 15984. *BROMUS* CARINATUS, Kew, 1902. (151)
- 15985. *BROMUS* CILIATUS, Cracow, 1902. (19)
- 15986. *BROMUS* CILIATUS, Schroeter, 1902. (21)
- 15987. *BROMUS* CILIATUS, Kew, 1902. (22)
- 15988. *BROMUS* CILIATUS, H. & S., 1902. (23)
- 15989. *BROMUS* CILIATUS, Paris, 1902. (25)
- 15990. *BROMUS* CILIATUS, Vienna, 1902. (26)
- 15991. *BROMUS* CILIATUS, B. G. C., 1901. (170)
- 15992. *BROMUS* CILIATUS, B. G. C., 1901. (171)
- 15993. *BROMUS* CILIATUS, J. Fletcher, 1902. (187)

## 15956 to 16128—Continued.

- 15994. *BROMUS CILIATUS* (glabrous var.), Bonn, 1902. (20)
- 15995. *BROMUS COMMUTATUS*, Schroeter, 1902. (33)
- 15996. *BROMUS COMMUTATUS*, Madingley, 1903, A. H. (239)
- 15997. *BROMUS CONDENSATUS*, Hack., Schroeter, 1902. (34)
- 15998. *BROMUS CONFERTUS*, Glasnevin, 1902. (35)
- 15999. *BROMUS CONGESTUS*, Glasnevin, 1902. (36)
- 16000. *BROMUS CRINITUS*, St. Petersburg, 1901. (152)
- 16001. *BROMUS DANTHONIAE*, St. Petersburg, 1902. (38)
- 16002. *BROMUS DIANDRUS*, Glasnevin, 1902. (37)
- 16003. *BROMUS ERECTUS*, Schroeter, 1902. (40)
- 16004. *BROMUS ERECTUS LAXUS*, Strassburg, 1903. (218)
- 16005. *BROMUS ERECTUS TRANSYLVANICUS*, Hack., Stockholm, 1902. (118)
- 16006. *BROMUS ERECTUS VILLOSUS* (?), Cherryhinton, 1903, A. H. (214)
- 16007. *BROMUS FIBROSUS*, Hack., Schroeter, 1902. (41)
- 16008. *BROMUS FIMBRIATUS VIOLACEUS*, H. & S., 1902. (42)
- 16009. *BROMUS FIMBRIATUS VIOLACEUS*, H. & S., 1903. (219)
- 16010. *BROMUS GIGANTEUS*, Cherryhinton, 1901, A. H. (45)
- 16011. *BROMUS GIGANTEUS TRIFLORUS*, S. H. Beckham, 1903. (211)
- 16012. *BROMUS GROSSUS*, H. & S., 1902. (43)
- 16013. *BROMUS GUSSONI*, Glasnevin, 1902. (44)
- 16014. *BROMUS GUSSONI*, Benary, 1902. (46)
- 16015. *BROMUS HOOKERIANUS*, Vienna, 1902. (48)
- 16016. *BROMUS HORDEACEUS*, St. Petersburg, 1902. (50)
- 16017. *BROMUS HORDEACEUS GLABRESCENS*, St. Petersburg, 1902. (49)
- 16018. *BROMUS INERMIS*, Schroeter, 1902. (32)
- 16019. *BROMUS INERMIS*, Sutton, 1901. (137)
- 16020. *BROMUS INERMIS*, B. G. C., 1901. (176)
- 16021. *BROMUS INERMIS* (awned var.), St. Petersburg, 1902. (51)
- 16022. *BROMUS INERMIS* (viviparous form), Shroeter, 1902. (52)
- 16023. *BROMUS INTERMEDIUS*, B. G. C., 1901. (53)
- 16024. *BROMUS INTERRUPTUS*, Sutton, 1901. (136)
- 16025. *BROMUS JAPONICUS*, St. Petersburg, 1902. (54)
- 16026. *BROMUS JAPONICUS*, Tokyo, 1903. (236)
- 16027. *BROMUS KALMII*, Paris, 1902. (55)
- 16028. *BROMUS KALMII*, Kew, 1901. (58)
- 16029. *BROMUS KRAUSEI*, St. Petersburg, 1902. (59)
- 16030. *BROMUS KRAUSEI*, Oxford, 1903. (234)
- 16031. *BROMUS LAEVIPES*, St. Petersburg, 1902. (67)
- 16032. *BROMUS LAEVIPES*, Hamburg, 1902. (220)
- 16033. *BROMUS LAXUS*, Glasnevin, 1902. (65)
- 16034. *BROMUS LAXUS*, Sutton, 1902. (168)
- 16035. *BROMUS LAXUS*, Vienna, 1902. (191)
- 16036. *BROMUS LONGIFLORUS*, Paris, 1902. (61)
- 16037. *BROMUS LONGIFLORUS*, Glasnevin, 1902. (62)

## 15956 to 16128—Continued.

16038. *BROMUS LONGIFLORUS*, Upsala, 1902. (63)  
 16039. *BROMUS MACRANTHUS*, Naples, 67, 1904. (253)  
 16040. *BROMUS MACROSTACHYS*, Sutton, 1901. (140)  
 16041. *BROMUS MACROSTACHYS*, Coimbra, 1901. (173)  
 16042. *BROMUS MACROSTACHYS LANUGINOSUS*, Palermo, 1902. (190)  
 16043. *BROMUS MADRITENSIS*, Mrs. Gregory, 1904.  
 16044. *BROMUS MADRITENSIS*, Old Walls, Carrick on Luir, Tipperary, 1902. (242)  
 16045. *BROMUS MADRITENSIS*, Sutton, 1901. (139)  
 16046. *BROMUS MADRITENSIS DELILEI*, B. G. C., 1901. (100)  
 16047. *BROMUS MARGINATUS*, St. Petersburg, 1902. (75)  
 16048. *BROMUS MARGINATUS*, U. S. Dept. Agr., 1902. (202)  
 16049. *BROMUS MAXIMUS GUSSONI*, Palermo, 1903. (233)  
 16050. *BROMUS MOLLIS*, Sutton, 1901. (138)  
 16051. *BROMUS MOLLIS* (deformed fls.), Grumpington Road, August 27, 1902, A. H. (235)  
 16052. *BROMUS MOLLIS GLABRATUS*, Hayle, Cornwall, 1902. (212)  
 16053. *BROMUS MOLLIS LLOYDIANUS*, Lizard, 1902. (206)  
 16054. *BROMUS MOLLIS THOMINII*, B. G. C., 1902. (169)  
 16055. *BROMUS MULTIFLORUS*, Schroeter, 1902. (72)  
 16056. *BROMUS PARVIFLORUS*, Schroeter, 1902. (79)  
 16057. *BROMUS PATULUS*, Benary, 1902. (87)  
 16058. *BROMUS PATULUS*, Hills Avenue, 1902, A. H. (204)  
 16059. *BROMUS PATULUS NANUS*, Benary, 1902. (90)  
 16060. *BROMUS PENDULUS*, Lyons, 1902. (96)  
 16061. *BROMUS PITENSIS*, St. Petersburg, 1902. (95)  
 16062. *BROMUS PITENSIS*, Quito, 1903. (232)  
 16063. *BROMUS PORTERI FRONDANS* (?), U. S. Dept. Agr., 1902. (198)  
 16064. *BROMUS PUBESCENS*, Berlin, 1902. (86)  
 16065. *BROMUS PUMPELLIANUS*, Saunders, 1902. (97)  
 16066. *BROMUS PUMPELLIANUS*, Wawanesa, 1902. (192)  
 16067. *BROMUS PUNGENS* (33.01), B. G. C., 1901. (162)  
 16068. *BROMUS PUNGENS CILIATUS* (?), B. G. C. (37), 1901. (160)  
 16069. *BROMUS PURGANS*, Glasnevin, 1902. (81)  
 16070. *BROMUS PURGANS*, Hamburg, 1902. (82)  
 16071. *BROMUS PURGANS*, Kew, 1902. (83)  
 16072. *BROMUS PURGANS*, Lemberg, 1902. (85)  
 16073. *BROMUS PURGANS* (41), B. G. C., 1901. (164)  
 16074. *BROMUS PURGANS*, B. G. C., 1901. (175)  
 16075. *BROMUS PURPURASCENS*, Hamburg, 1902. (93)  
 16076. *BROMUS PURPURASCENS*, Glasnevin, 1902. (94)  
 16077. *BROMUS RACEMOSUS*, near Madingley Chalk Pit, A. H., 1902. (213)  
 16078. *BROMUS RACEMOSUS*, Hamburg. (221)  
 16079. *BROMUS RACEMOSUS*, Kew, 1903. (222)  
 16080. *BROMUS RACEMOSUS*, Breslau, 1903. (223)

## 15956 to 16128—Continued.

- 16081. *BROMUS RACEMOSUS*, Lyon, 1903. (224)
- 16082. *BROMUS RACEMOSUS*, Babraham, 1903, R. I. Lynch. (237)
- 16083. *BROMUS RACEMOSUS*, Madingley, 1903, A. H. (238)
- 16084. *BROMUS RACEMOSUS*, Madingley, June 28, 1903, A. H. (243)
- 16085. *BROMUS RICHARDSONI*, U. S. Dept. Agr., 1902. (200)
- 16086. *BROMUS RIGIDUS*, Kew, 1901. (69)
- 16087. *BROMUS RUBENS*, Montpellier, 1902. (101)
- 16088. *BROMUS RUBENS*, U. S. Dept. Agr., 1902. (203)
- 16089. *BROMUS SCHRADERI*, Correvaon, 1902. (113)
- 16090. *BROMUS SCHRADERI*, Upsala, 1902. (114)
- 16091. *BROMUS SECALINUS*, Sutton, 1901. (146)
- 16092. *BROMUS SECALINUS*, U. S. Dept. Agr., 1902. (194)
- 16093. *BROMUS SECALINUS MULTIFLORUS*, Upsala, 1902. (116)
- 16094. *BROMUS SEGETUM*, U. S. Dept. Agr., 1902. (115)
- 16095. *BROMUS SQUARROSUS*, St. Petersburg, 1902. (78)
- 16096. *BROMUS SQUARROSUS*, Glasnevin, 1902. (102)
- 16097. *BROMUS SQUARROSUS*, near *B. rubens*, Roven, 1902. (103)
- 16098. *BROMUS SQUARROSUS*, Chelsea, 1902. (104)
- 16099. *BROMUS SQUARROSUS*, Correvaon, 1902. (105)
- 16100. *BROMUS SQUARROSUS*, Schroeter, 1902. (106)
- 16101. *BROMUS SQUARROSUS*, Paris, 1902. (107)
- 16102. *BROMUS SQUARROSUS VILLOsus*, Schroeter, 1902. (112)
- 16103. *BROMUS SQUARROSUS WOLGENSIS*, St. Petersburg, 1902. (110)
- 16104. *BROMUS STENOPHYLLUS*, Glasnevin, 1903. (225)
- 16105. *BROMUS STERILIS*, Sutton, 1901. (145)
- 16106. *BROMUS TACNA*, Paris, 1902. (120)
- 16107. *BROMUS TACNA*, Kew, 1901. (158)
- 16108. *BROMUS TACNA*, Warsaw. (246)
- 16109. *BROMUS TECTORUM*, Sutton, 1901. (147)
- 16110. *BROMUS TECTORUM*, U. S. Dept. Agr., 1902. (197)
- 16111. *BROMUS TRINII*, Kew, 1905.
- 16112. *BROMUS UNIOLOIDES*, Stockholm, 1902. (121)
- 16113. *BROMUS UNIOLOIDES*, Schroeter, 1902. (122)
- 16114. *BROMUS UNIOLOIDES*, Heidelberg, 1902. (123)
- 16115. *BROMUS UNIOLOIDES*, Sutton, 1901. (144)
- 16116. *BROMUS UNIOLOIDES*, Sutton, 1901. (148)
- 16117. *BROMUS UNIOLOIDES*, B. G. C., 1901. (156)
- 16118. *BROMUS UNIOLOIDES*, B. G. C., 1901. (161)
- 16119. *BROMUS UNIOLOIDES*, Palermo, 1902. (193)
- 16120. *BROMUS UNIOLOIDES*, Upsala, 1902. (207)
- 16121. *BROMUS UNIOLOIDES*, Penzance, 1902, A. H. (208)
- 16122. *BROMUS UNIOLOIDES*, Quito, 1903. (231)
- 16123. *BROMUS UNIOLOIDES WILLDENOWII*, U. S. Dept. Agr., 1902. (196)
- 16124. *BROMUS VALDIVIANUS*, H. & S., 1902. (126)



**15956 to 16128—Continued.****16125.** *BROMUS VARIEGATUS*, Vienna, 1902. (125)**16126.** *BROMOS VESTITUS*, Griesswald, 1903. (228)**16127.** *BROMUS VIRENS*, Benary, 1902. (124)**16128.** *BROMUS WILLDENOWII* Kth., U. S. Dept. Agr., 1902. (195)**16129. PHASEOLUS MAX.****Mung bean.**

From New Orleans, La. Received thru Mr. R. E. Blouin, assistant director,  
Louisiana Sugar Experiment Station, Audubon Park, November 8, 1905.

**16130. PISUM ARVENSE.****Canada field pea.**

From Chicago, Ill. Received thru A. Dickinson & Co., November 8, 1905.

**16131. GARCINIA MANGOSTANA.****Mangosteen.**

From Heneratgoda, Ceylon. Received thru J. P. William & Bros., November  
10, 1905.

"For experiments in grafting on a more resistant stock." (*Fairchild.*)

**16132. (Undetermined.)****Aroid.**

From greenhouses of Public Buildings and Grounds, Washington, D. C. Received  
in June, 1904. Numbered November 10, 1905.

**16133. PERSEA INDICA.**

From Funchal, Madeira. Presented by Mr. J. B. Blandy. Received November  
9, 1905.

"A species related to the avocado of commerce; for breeding purposes and as a  
stock." (*Fairchild.*)

**16134. (Undetermined.)****"Catispa."**

From Guadalajara, Mexico. Received thru Mr. A. W. Geist, November 10, 1905.

"A quick-growing hardwood tree used for live posts for wire fences." (*Geist.*)

**16135. MELILOTUS ALBA.****Sweet clover.**

From Augusta, Ga. Received thru the N. L. Willet Drug Company, November  
8, 1905.

**16136. MEDICAGO SATIVA.****Alfalfa.**

From Billings, Mont. Received thru Mr. I. D. O'Donnell; October 31, 1905.

**16137. LATHYRUS SILURUS.**

From Salonica, Turkey. Received thru Mr. J. Henry House, October 30, 1905.

"Extensively used as food for cattle. When burned like coffee it is said to make  
very good cereal coffee—better than barley." (*House.*)

**16138. MEDICAGO LUPULINA. Black medick, or yellow trefoil.**

From New York, N. Y. Received thru J. M. Thorburn & Co., October 30, 1905.

**16139. XANTHOSOMA sp.****Yautia.**

From Tepatitlan, Jalisco, Mexico. Received thru Mr. W. E. Safford, from Mr.  
C. V. Mead, October 31, 1905.

"This yautia apparently belongs to a type distinct from the West Indian forms;  
the petioles are purplish but the rhizome, tho of two seasons' growth, shows no  
indications of having produced tubers. This plant is prized by the natives, who  
sometimes call it "Papa de Colomo." The water in which the rhizomes are boiled  
should be changed several times." (*Barrett.*)

**16140. SWAINSONA MACCULLOCHIANA.**

From Sydney, New South Wales. Presented by Mr. J. H. Maiden, director of the Botanic Gardens. Received October 30, 1905.

"This is one of the most horticulturally valuable of all Swainsonas." (*Maiden.*)

**16141 to 16159.**

Presented by Dr. J. N. Rose, of the United States National Museum, having been collected by him during the summer of 1905, while in Mexico. Received October 30, 1905. The numbers in parentheses are those of Doctor Rose.

**16141. AMARYLLIDACEAE.**

From "Pedregal," near Tlalpam, Valley of Mexico. (1013/05.)

**16142. HYMENOCALLIS sp.**

From limestone hillsides, Tula, Hidalgo. (1036/05.)

**16143. ANTHERICUM sp.**

From limestone hillsides, Tula, Hidalgo. (1037/05.)

**16144. (Undetermined.)**

From limestone hillsides, Tula, Hidalgo. (1038/05.)

**16145. (Undetermined.)**

From limestone hillsides, Tula, Hidalgo. (1039/05.)

**16146. (Undetermined.)**

From limestone hillsides, Tula, Hidalgo. (1040/05.)

**16147. HYMENOCALLIS sp.**

From limestone hillsides, Yautepec, Morelos. (1066/05.)

**16148. AMARYLLIDACEAE.**

In barranca of Rio Aqueduct to near Santa Fe. D. P. (1087/05.)

**16149. SPREKELIA sp.**

From mountains near Pachuca. (1108/05.)

**16150. ZEPHYRANTHES sp.**

From mountains near Pachuca. (1109/05.)

**16151. MILLA BIFLORA.**

From limestone hills near Ixmiquilpan. (1161/05.)

**16152. (Undetermined.)**

From limestone hillside near Ixmiquilpan. (1162/05.)

**16153. (Undetermined.)**

From stony hillsides near San Juan del Rio, Quer. (1214/05.)

**16154. ECHEANDIA sp.**

From stony hillside near San Juan del Rio, Quer. (1216/05.)

**16155. (Undetermined.)**

From between Cadereyta and Visaron. (1264/05.)

**16156. (Undetermined.)**

From between Cadereyta and Visaron. (1270/05.)

**16157. (Undetermined.)**

From hills near El Riego. (1312/05.)

**16158. TALINUM sp.**

From hills near El Riego. (1317/05.)

**16159. AGAVE sp.**

From near Cuernavaca, Morelos. (1350/05.)

**16160. POLYPTERIS TEXANA.**

From Kosse, Tex. Collected by Mr. A. J. Pieters in October, 1905.  
Very brilliant rose-colored flowers.

**16161. ARACHIS HYPOGAEA.****Peanut.**

From Paris, France. Received thru Vilmorin-Andrieux & Co., October 28, 1905.

**16162 to 16164. ARACHIS HYPOGAEA.****Peanut.**

From St. Louis, Mo. Secured by Mr. M. A. Carleton at the Louisiana Purchase Exposition, 1904.

**16162.** *Nápoli.* From Italy.

**16164.** (Unnamed sample from Argentina.)

**16163.** *Salerno.* From Italy.

**16165. ZIZANIA AQUATICA.****Wild rice.**

From Port Hope, Canada. Received thru Mr. Charles Gilchrist, November 2, 1905.

**16166 to 16168. VIGNA SINENSIS.****Cowpea.**

From St. Louis, Mo. Obtained by Mr. M. A. Carleton in the summer of 1904, at the Louisiana Purchase Exposition.

**16166.** *Black-eyed.* Labeled *Co-senza.*

**16167.** *Black-eyed.*

From Reggio Calabria.  
From the Italian exhibit.

Probably from Italy.

**16168.** Same as 16167, but labeled *Caserta.*

**16169 and 16170. PERSEA spp.**

From Monte, Grand Canary. Received thru Mr. Alaricus Delmard, Hotel Santa Brigida, November 2, 1905.

**16169.** *PERSEA INDICA.*

**16170.** *PERSEA GRATISSIMA.*

**Avocado.****16171 to 16174. BROMUS INERMIS.****Smooth brome-grass.**

From Dwight, Nebr. Received thru Mr. J. P. Dunlap, November 1, 1905.

**16171.** *Yellow.*

"Best of all the varieties." (*Dunlap.*)

**16172.** *Hansen's.*

"Much like the yellow, but heads show less pink color when ripening and blades show more purple when dying. Field generally shows less yellow color; nearly as tall as yellow, but less stout in sod. Originally from South Dakota Experiment Station." (*Dunlap.*)

**16173.** *Colorado.*

"Dark purplish heads; nearly as dark as the darkest kinds, but fading as the heads ripen. Blades nearly as light as those of the *Yellow.* Not so large a grower as the *Yellow* or *Hansen.* Has been experimented with at the Colorado Experiment Station. From Keen Brothers, Pueblo, Colo." (*Dunlap.*)

**16174.** *Large Dark.*

"Very dark-colored heads when ripening, turning to a reddish brown. Barely equals other kinds in amount of feed; quality not quite so good. On hard land does not stand as well as the others. From R. Rabler, Leigh, Nebr." (*Dunlap.*)

**16175 to 16188. IPOMOEA BATATAS.****Sweet potato.**

From the Arlington Farm of the United States Department of Agriculture.  
Received November 1, 1905.

Fourteen of the best varieties, selected by Mr. W. R. Beattie.

16175. <i>Florida.</i>	16182. <i>Red Nansmond.</i>
16176. <i>McCoy.</i>	16183. <i>Red Jersey.</i>
16177. <i>Hamburg.</i>	16184. <i>Bermuda Red.</i>
16178. <i>White Yam.</i>	16185. <i>Van Nest Red.</i>
16179. <i>Miles Yam.</i>	16186. <i>Early Red Carolina.</i>
16180. <i>Early General Grant.</i>	16187. <i>Bronze Spanish.</i>
16181. <i>Big Stem Jersey.</i>	16188. <i>Southern Queen.</i>

**16189. ORYZA GLUTINOSA.****Glutinous rice.**

From Kiangsu Province, China. Presented by Dr. S. P. Barchet, of Shanghai, China. Received November 4, 1905.

"Doctor Barchet states that the glutinous rice of China brings a higher price and has a better flavor than ordinary rice. He personally prefers it to the latter and advises a mixture of the glutinous with the ordinary rice, claiming that it adds distinctly to the flavor of the dish. This is not the red rice which is considered by our planters as a weed, but is a distinct variety." (Fairchild.)

**16190. ZEA MAYS.****Corn.**

From Leman, Caucasus, Russia. Received thru Mr. Frank Benton, of the Bureau of Entomology, November 2, 1905.

**16191 to 16193.**

From the Bulgarian exhibit at the Louisiana Purchase Exposition, 1904.  
Received November 7, 1905.

16191. <i>Vicia villosa.</i>	Hairy vetch.
16192. <i>Vicia</i> sp.	Vetch.
16193. <i>Brassica napus.</i>	Rape.

**16194. CURCUMA AMADA.****Mango ginger.**

From Madras, India. Received thru G. Rajah Gopal Naidu, agricultural inspector, June 26, 1903. Numbered November 10, 1905.

**16195. ZINGIBER sp.**

(Origin in doubt.) Received in November, 1905.

**16196. CURCUMA LONGA.****Turmeric.**

From Mayaguez, P. R. Presented by Mr. H. C. Henricksen, horticulturist of the Agricultural Experiment Station. Received November 7, 1905.

"This plant was introduced from the Orient many years ago and has escaped from cultivation and become a troublesome weed in pastures in the western portion of Porto Rico. It flowers freely, but spreads only from the roots. It is one of the two or three commercial turmerics, but has no sale in this country because the special process by which it is prepared in the Orient is unknown here." (Barrett.)

**16197 to 16207.**

From Dr. J. N. Rose, of the United States National Museum, Washington, D. C.  
Received November 7, 1905.

16197. <i>Yucca</i> sp.
Lower California, 1905. (E. W. Nelson No. 7129.)

**16197 to 16207—Continued.****16198. AGAVE sp.**

Lower California, 1905. (E. W. Nelson No. 7151.)

**16199. (Undetermined.)**

Lower California, 1905. (E. W. Nelson No. 7157.)

**16200. IBERVILLEA SONORAE.**

Lower California, 1905. (E. W. Nelson No. 7182.)

A large cucurbit vine; lives in dry regions and forms a large, bulbous root.

**16201. IBERVILLEA sp.**

Lower California, 1905. (E. W. Nelson No. 7182.)

**16202. (Undetermined.)**

Laredo, Tex., June 27, 1905. (J. N. Rose No. 1013.)

**16203. (Undetermined.)**

"Bulb" from Hacienda Ciervo, Mexico, 1905. (J. N. Rose No. 1266/05.)

**16204. ZEPHYRANTHES sp.**

From mountains near Pachuca, Mexico, 1905. (J. N. Rose 1109/05.)

**16205. DASYLIRION sp. nov.**

Limestone hills west of El Riego, Tehuacan, Puebla, Mexico, 1905. (J. N. Rose No. 10009.)

**16206. AGAVE sp.**

El Riego, Tehuacan, Puebla, Mexico, 1905. (J. N. Rose No. 10006.)

**16207. AMPHYPTERYGIUM sp.**

Near Tomellin, Oaxaca, Mexico, 1905. (J. N. Rose No. 10096.)

**16208. DAVIDIA INVOLUCRATA.****Davidia.**

From London, England. Received thru J. Veitch &amp; Sons, November 2, 1905.

In the whole vegetable kingdom there is not a more striking object than a tree of *Davidia* when covered with its pure white bracts, which make it conspicuous at a great distance. It is a handsome tree, growing to a height of 60 to 70 feet, with foliage much resembling that of our common linden or basswood. When in full flower it is said to be a marvelous sight, owing to the alternate white and green caused by the large bracts intermingling with the leaves. The flowers themselves are polygamo-dioecious, all borne in heads inside a pair of large, white bracts about 3 inches long, with conspicuous red-anthered stamens and a long, bottle-shaped gynoecium. Botanically, the plant is allied to the dogwoods.

Growing at an elevation of 6,000 to 7,000 feet in central China, where the minimum temperature is about 5° F., there ought to be little doubt as to its hardiness in the greater part of the United States. Trees set out in France have survived the winters at Paris, while others in England have withstood 15 degrees of frost unprotected. Until well established, however, some protection in very severe weather is recommended. New plants are readily obtained by cuttings or by layering, and should be planted in a rich soil, with some protection from too much sunshine.

**16209. MEDICAGO SATIVA.****Alfalfa.**

From Chicago, Ill. Received thru the A. Dickinson Company, November 8, 1905.

**16210 and 16211. PHASEOLUS RADIATUS.****Mung bean.**

From Chillicothe, Tex. Received thru Mr. A. B. Conner, November 7, 1905.

**16210.** Grown from S. P. I. No. 13394.**16211.** Grown from S. P. I. No. 8540.**16212. (Undetermined.)**

From Newcastle, New South Wales. Received thru Dr. Frederic W. Goding, United States consul, November 8, 1905.



**16213. MEDICAGO MACULATA.****Bur clover.**

From Abbeville, S. C. Received thru Mr. Arthur Parker, November 11, 1905.

**16214. MUSA TEXTILIS.****Manila hemp.**

From Manila, P. I. Received thru Mr. W. S. Lyon, Insular Bureau of Agriculture, November 13, 1905.

**16215 to 16222. ERODIIUM spp.**

From Geneva, Switzerland. Received thru Mr. H. Correvon, November 13, 1905.

**16215. ERODIIUM HYMENODES.****16219. ERODIIUM GLANDULOSUM.****16216. ERODIIUM CHELIDONIFOLIUM.****16220. ERODIIUM MACRADENUM.****16217. ERODIIUM PELARGONIFOLIUM.****16221. ERODIIUM MANESCAVI.****16222. ERODIIUM MACROPHYLLUM.****16218. ERODIIUM DAUCOIDES.****16223. CARUM GAIRDNERI.**

From Pendleton, Oreg. Received thru Mr. W. H. Bleakney, November, 1905.

"This plant was formerly a staple article of food among the Umatilla and other Indian tribes of the Pacific Northwest. The roots may be eaten either raw or cooked. They have a delicious flavor." (*Corille*.) (See also No. 12932.)

**16224. BLIGHIA SAPIDA.****Akee.**

From Kingston, Jamaica. Received thru Mr. G. N. Collins, November, 1905.

"Unless fully matured, the white fleshy arillus of this excellent fruit is regarded as poisonous by the natives of Jamaica." (*Collins*.)

**16225 and 16226. XANTHOSOMA spp.****Yautia.**

From Floral Park, Long Island, N. Y. Received thru Mr. John Lewis Childs, November 17, 1905.

**16225. XANTHOSOMA SAGITTIFOLIUM.****16226. XANTHOSOMA sp.****16227. EUCALYPTUS GONIOCALYX.****Eucalypt.**

From Guadalajara, Mexico. Received thru Mr. Federico Chisolm, November 17, 1905.

**16228. POA PRATENSIS.****Kentucky bluegrass.**

From Winchester, Ky. Received thru Mr. D. S. Gay, November 17, 1905.

**16229. VIGNA SINENSIS.****Cowpea.**

From Bristol, Conn. Received thru Mr. Herman Ockels, November 10, 1905.

**16230. PASPALUM DILATATUM.****Large water grass.**

From Biloxi, Miss. Received thru Mr. S. M. Tracy, November 18, 1905.

**16231. ARALIA RACEMOSA.****Spikenard.**

From North Clarendon, Vt. Received thru Mr. James Barrett, November 21, 1905.

Roots and berries of the wild spikenard are used in the preparation of a remedy for catarrhal affections. For use in breeding with *Aralia cordata*, the Japanese "udo."

**16232. TECOMA CAPENSIS (?)**

From Lourenço Marquez, Portuguese East Africa. Received thru Hon. W. Stanley Hollis, United States consul, November 21, 1905.

"Seeds of a native African shrub that is much used in making hedges. Might be advantageously used in the warmer parts of the United States." (Hollis.)

**16233 to 16236. ARACHIS HYPOGAEA.****Peanut.**

From Sydney, New South Wales. Received thru Mr. Walter S. Campbell, director of agriculture, Department of Mines and Agriculture, November 22, 1905.

**16233.** *Mammoth Bush.*

**16235.** *Cluster.*

**16234.** *Improved Large.*

**16236.** *Small.*

**16237 to 16243. NEPHELIUM LITCHI.****Litchi.**

From Canton, China. Secured thru Dr. John M. Swan, of the Medical Missionary Hospital, and forwarded by the Yokohama Nursery Company, Yokohama, Japan. Received at Berkeley, Cal., October, 1905.

"This fruit tree, represented by many varieties, is worthy of thoro trial in Porto Rico, Hawaii, southern California, and Florida. It is one of the most delicious fruits in the world." (Fairchild.)

**16237.** (Without labels.)

**16241.** *Kwai Mai.*

**16238.** (No. 1.)

A very popular sort. Ripens at end of fifth month.

**16239.** *Hak Ip.*

A favorite early sort, ripening in the fifth month.

**16242.** (No. 2.)

**16243.** (No. 3.)

**16240.** *Nue Mai.*

A large-fruited, small-seeded variety extremely sweet. Ripens in the fifth or sixth month.

**16244. FESTUCA OVINA INGRATA.**

From Wenache Mountains, Washington, at an altitude of 6,000 feet. Collected by Mr. J. S. Cotton, of the Department of Agriculture, September, 1904. Received November, 1905.

**16245 to 16247.**

From New York, N. Y. Received thru Henry Nungesser & Co., November 21, 1905.

**16245.** *ARRHENATHERUM ELATIUS.*

**Tall meadow oat-grass.**

**16246.** *ONOBRYCHIS ONOBRYCHIS.*

**Sainfoin.**

**16247.** *HOLCUS LANATUS.*

**Velvet grass.**

**16248 to 16253. SOLANUM TUBEROSUM.****Potato.**

From Portsmouth, Va. Grown under the direction of Mr. W. A. Orton, of the Department of Agriculture, during the summer of 1905, from seed potatoes introduced from Ecuador, July, 1905.

**16248.** Round white potatoes.

**16251.** Round dark-red potatoes.

Grown from S. P. I. No. 14973; first type. (P. B. No. 679b.)

Grown from S. P. I. No. 14893. (P. B. No. 676.)

**16249.** Round or elongated red potatoes.

**16252.** Round white potatoes.

Grown from S. P. I. No. 14973; second type. (P. B. No. 679c.)

Grown from S. P. I. No. 14894. (P. B. No. 677.)

**16250.** Elongated white potatoes.

**16253.** Oval white potatoes.

Grown from S. P. I. No. 14973; third type. (P. B. 679d.)

Grown from S. P. I. No. 14895. (P. B. No. 678.)

**16254 to 16275.**

From Karlsruhe, Germany. Received thru the Botanic Gardens, November 17, 1905.

16254. AEGILOPS SQUARROSA.	16265. MEDICAGO ORBICULARIS.
16255. ARRHIENATHERUM ELATIUS.	16266. MEDICAGO RADIATA.
16256. BRACHYPODIUM PINNATUM.	16267. MEDICAGO SCUTELLATA.
16257. ELEUSINE TOCUSSA.	16268. MELILOTUS ALTISSIMA.
16258. ERODIUM GRUINUM.	16269. MELILOTUS ITALICA.
16259. ERODIUM STEPHANIANUM.	16270. TRIGONELLA COERULEA.
16260. MEDICAGO CILIARIS.	16271. TRIGONELLA CORNICULATA.
16261. MEDICAGO ECHINUS.	16272. TRITICUM RIGIDUM.
16262. MEDICAGO ELEGANS.	16273. TRITICUM TRICHOPHORUM.
16263. MEDICAGO SATIVA X FALCATA.	16274. VICIA CORNIGERA.
16264. MEDICAGO MINIMA.	16275. VICIA DUMETORUM.

**16276 to 16302.**

From Strassburg, Germany. Received thru the Botanic Gardens, November 21, 1905.

16276. AEGILOPS SPELTOIDES.	16291. PISUM JOMARDI.
16277. AVENA BREVIS.	16292. TRITICUM BOEOTICUM.
16278. AVENA HIRSUTA.	16293. TRITICUM BOEOTICUM THAOUAR.
16279. AVENA LUDOVICIANA.	16294. TRITICUM DICOCCUM.
16280. AVENA ORIENTALIS.	16295. TRITICUM GIGANTEUM.
16281. AVENA PLANICULMIS.	16296. TRITICUM MONOCOCCUM.
16282. AVENA STRIGOSA.	16297. TRITICUM MONOCOCCUM HORNEMANNI.
16283. BROMUS ERECTUS.	16298. TRITICUM POLONICUM.
16284. ERODIUM GRUINUM.	16299. TRITICUM RIGIDUM.
16285. LAPPAGO RACEMOSA.	16300. VIGNA GLABRA.
16286. MEDICAGO GERARDI.	16301. PISUM ELATIUS.
16287. MEDICAGO TEREPELLUM.	16302. PHASEOLUS MULTIFLORUS.
16288. MEDICAGO TURBINATA.	
16289. MELILOTUS ALBA.	
16290. PHASEOLUS CAFFER	

**16303 to 16335.**

From Kashgar, Chinese Turkestan. Received from Mr. Ellsworth Huntington, Kashgar, Chinese Turkestan, via Baku, Russia, thru the Chinese Amban of Khotan, and Mr. Macartney, British political agent at Kashgar, November 17, 1905.

"Khotan is a large, well-watered oasis, at an elevation of about 4,500 feet, at the foot of the Kuen Lun Mountains. Longitude 80°, latitude 37° N. In general, the climate is typically midcontinental. It may be likened to that of Colorado, tho drier and more extreme." (*Huntington.*)

16303. VIGNA SINENSIS.	Cowpea.
<i>Lobia.</i> A white bean.	
16304. BRASSICA NAPUS (?).	Turnip.
<i>Chamgu.</i>	
16305. (Undetermined.)	
<i>Usun.</i>	

## 16303 to 16335—Continued.

16306.	CITRULLUS VULGARIS. <i>Tarbuz.</i>	Watermelon.
16307.	CORIANDRUM SATIVUM. <i>Gesnich.</i>	Coriander.
16308.	ALLIUM sp. <i>Kuda.</i>	Onion.
16309.	FOENICULUM DULCE (?). <i>Siadana.</i>	Fennel.
16310.	BRASSICA sp. <i>Kichi.</i>	Mustard.
16311.	SESAMUM INDICUM. <i>Kunjut.</i>	Sesame.
16312.	BRASSICA OLERACEA (?). <i>Baseh.</i>	Cabbage.
16313.	ALLIUM CEPA (?). <i>Piaz.</i>	Onion.
16314.	PANICUM MILIACEUM. <i>Tarekh.</i>	Millet.
16315.	APIUM GRAVEOLENS. <i>Chingsch.</i>	Celery.
16316.	AGRIOPHYLLUM GOBICUM. <i>Polak.</i>	Sulhir.
16317.	MEDICAGO SATIVA. <i>Beda.</i>	Alfalfa.
16318.	DAUCUS CAROTA. <i>Zardek.</i>	Carrot.
16319.	CUCUMIS MELO. <i>Kaghun.</i>	Muskmelon.
16320.	CICER ARIETINUM. <i>Narkhot.</i>	Chick-pea.
16321.	LINUM USITATISSIMUM. <i>Zighar.</i> A variety of flax used only for oil.	Flax.
16322.	CUCUMIS SATIVUS. <i>Khonga.</i>	Cucumber.
16323.	PHASEOLUS RADIATUS. <i>Mash, or Dal pea.</i>	Mung bean.
16324.	CARTHAMUS TINCTORIUS. <i>Zarangzeh.</i>	Safflower.
16325.	BRASSICA sp. <i>Zaghun.</i> Extensively cultivated for oil.	Mustard.
16326.	PISUM sp. <i>Puchek.</i>	Pea.
16327.	TRITICUM VULGARE. <i>Bugdai.</i>	Wheat.

## 16303 to 16335—Continued

16328.	ORYZA SATIVA.	Rice.
	<i>Shal.</i>	
16329.	HORDEUM sp.	Barley.
	<i>Arpa.</i>	
16330.	ZEA MAYS.	Corn.
	<i>Konak.</i>	
16331.	CUCURBITA sp.	Squash (?).
	<i>Kura.</i>	
16332.	LAGENARIA VULGARIS (?).	Gourd.
	<i>Kapak.</i>	
16333.	CANNABIS SATIVA.	Hemp.
	<i>Bang.</i> Used for smoking.	
16334.	IRIS ENSATA PABULARIA.	Iris.
	<i>Chigitmak.</i> "A species of iris said to grow in the dry desert sand or almost anywhere if once it gets rain enough to cause it to sprout. It is reported to be a good forage plant, both green and dry. Sheep are very fond of it, and other animals do not object to it." ( <i>Huntington.</i> )	
16335.	TRIGONELLA FOENUM-GRÆCUM.	Fenugreek.
	<i>Shemshu.</i>	

## 16336 to 16470.

From Pullman, Wash. Received thru Mr. Byron Hunter, assistant agrostologist of the Department of Agriculture, November 14, 1905.

Seeds grown at the Agricultural Experiment Station at Pullman, Wash., together with others collected from various sources.

16336.	AGROPYRON sp.	16342.	AGROPYRON PSEUDO-REPENS.
	A promising grass.		Crop of 1905.
16337.	AGROPYRON DIVERGENS.	16343.	AGROPYRON SPICATUM.
	Collected in August, 1904, on the Moscow Mountains.		Crop of 1905.
16338.	AGROPYRON DIVERGENS.	16344.	AGROPYRON TENERUM.
	Collected June 29, 1905, at Wawawai, Wash. (Agrost. No. 579.)		Crop of 1905. (Agrost. No. 211.)
16339.	AGROPYRON ELMERI.	16345.	AGROPYRON TENERUM.
	Collected August 4, 1904, at Wawawai, Wash. (Agrost. No. 675.)		Crop of 1904.
16340.	AGROPYRON OCCIDENTALE.	16346.	AGROPYRON TENERUM.
	Crop of 1905.		Crop of 1905. Grown from seed collected at Trinidad, Colo.
16341.	AGROPYRON OCCIDENTALE.	16347.	TRITICUM VIOLACEUM.
	Grown at Harlem, Mont.		Crop of 1905. (Agrost. No. 210.)
16349.	ARRHENATHERUM ELATIUS.	16348.	ALOPECURUS CASTELLANUS.
	Crop of 1905. (Agrost. No. 2191.)		Crop of 1903.
16350.	AVENA FLAVESCENS.		Tall meadow oat-grass.
	Crop of 1905. (Agrost. No. 2192.)	16351.	AVENA ORIENTALIS.
			Crop of 1905. (Agrost. No. 1157.)
16352.	AVENA SATIVA.		Oat.
	Grown in 1905 from Argentine seed.		



## 16336 to 16470—Continued.

- 16353.** *BROMUS* sp.  
Crop of 1905. (Agrost. No. 245.)
- 16354.** *BROMUS* CARINATUS.  
Collected at Wawawai, Wash., in 1904.
- 16355.** *BROMUS* CARINATUS.  
Grown in 1905 from seed originally collected at Wawawai, Wash.
- 16356.** *BROMUS* CARINATUS.  
Grown in 1904 at Chehalis, Wash. (Agrost. No. 609.)
- 16357.** *BROMUS* CARINATUS HOOKERIANUS.  
Crop of 1905.
- 16358.** *BROMUS* CARINATUS HOOKERIANUS.
- 16359.** *BROMUS* INERMIS. Smooth brome-grass.
- 16360.** *BROMUS* MARGINATUS.  
Crop of 1904.
- 16361.** *BROMUS* MARGINATUS.  
“Eight-dollar Grass.” Grown at Selma, Oreg.
- 16362.** *BROMUS* MARGINATUS.  
Grown in 1905 from Portland, Oreg., seed.
- 16363.** *BROMUS* MARGINATUS.  
Crop of 1905.
- 16364.** *BROMUS* MARGINATUS ELATIOR.
- 16365.** *BROMUS* MARGINATUS MARITIMUS.  
Crop of 1905. (Agrost. No. 2261.)
- 16366.** *BROMUS* MARGINATUS PUMPELLIANUS.  
Crop of 1905.
- 16367.** *BROMUS* POLYANTHUS.  
Gathered at Portland, Oreg., in 1904. (Agrost. No. 614.)
- 16368.** *BROMUS* POLYANTHUS.  
Crop of 1905. (Agrost. No. 319.)
- 16369.** *BROMUS* POLYANTHUS PANICULATUS.
- 16370.** *BROMUS* SITCHENSIS.  
Grown in 1904 from seed gathered at Puyallup, Wash. (Agrost. No. 600.)
- 16371.** *DACTYLIS* GLOMERATA. Orchard grass.  
Purchased from the C. H. Lilly Company, Seattle, Wash.
- 16372.** *DACTYLIS* GLOMERATA. Orchard grass.  
Crop of 1905.
- 16373.** *DESCHAMPSIA* CAESPITOSA.  
Crop of 1904.
- 16374.** *ELYMUS* CANADENSIS. Wild rye.
- 16375.** *ELYMUS* VIRGINICUS SUBMUTICUS.  
Crop of 1902. (Agrost. No. 328.)
- 16376.** *ELYMUS* VIRGINICUS SUBMUTICUS.  
Grown in 1905 from S. P. I. No. 16375.
- 16377.** *FESTUCA* ARUNDINACEA.
- 16378.** *FESTUCA* ELATIOR. Tall fescue.  
Grown from Kansas seed.
- 16379.** *FESTUCA* hyb.  
A hybrid from Mr. A. B. Leckenby, Union, Oreg.
- 16380.** *FESTUCA* PRATENSIS. Meadow fescue.
- 16381.** *FESTUCA* REFLEXA.
- 16382.** *LATHYRUS* AZUREUS.  
Grown in 1905 from S. P. I. No. 11195.
- 16383.** *LATHYRUS* COCCINEUS.  
Grown in 1905 from S. P. I. No. 11196.
- 16384.** *LATHYRUS* OCHRUS.  
Crop of 1905.

## 16336 to 16470—Continued.

16385. LATHYRUS SATIVUS.	Bitter vetch.
Grown in 1905 from S. P. I. No. 11197.	
16386. LATHYRUS SATIVUS.	Bitter vetch.
Grown in 1905 from S. P. I. No. 11198.	
16387. LATHYRUS SATIVUS.	Bitter vetch.
Grown in 1905 from S. P. I. No. 11199.	
16388. LATHYRUS TINGITANUS.	Tangier scarlet pea.
Grown in 1905 from S. P. I. No. 11220.	
16389. LATHYRUS TINGITANUS.	Tangier scarlet pea.
Grown in 1905 from Agrost. No. 1548.	
16390. LOLIUM BONARIENSIS.	
Grown in 1905 from Agrost. No. 2321.	
16391. LOLIUM PERENNE.	Perennial rye-grass.
From E. J. Bowen, San Francisco, Cal.	
16392. LOLIUM PERENNE.	Perennial rye-grass.
Grown in 1905 from seed secured in Holland.	
16393. LOLIUM PERENNE.	Perennial rye-grass.
Grown in 1905 from Agrost. No. 1981.	
16394. LOLIUM PERENNE.	Perennial rye-grass.
Grown in 1905 from Agrost. No. 5349. From Argentine seed.	
16395. LOTUS AMERICANUS.	Dakota vetch.
From Cusick, Wash.	
16396. LOTUS AMERICANUS.	Dakota vetch.
From Wenatchee, Wash.	
16397. LOTUS CORNICULATUS.	Bird's-foot trefoil.
Grown in 1905 from S. P. I. No. 11204.	
16398. LOTUS TETRAGONOLOBUS.	Winged pea.
Grown in 1905 from S. P. I. No. 10398.	
16399. MEDICAGO MEDIA.	Sand lucern.
Crop of 1904.	
16400. MEDICAGO MEDIA.	Sand lucern.
Crop of 1905.	
16401. MEDICAGO SATIVA.	Alfalfa.
Grown by Mr. E. W. Downen, Pullman, Wash., in 1904.	
16402. MEDICAGO SATIVA.	Alfalfa.
Turkestan alfalfa. Grown at Walla Walla, Wash., in 1904, from S. P. I. No. 991.	
16403. MEDICAGO SATIVA.	Alfalfa.
Turkestan alfalfa. Grown in 1905 at Pullman, Wash., from seed obtained from Mr. M. Evans.	
16404. MELILOTUS INDICUS.	11406. MELILOTUS SULCATA.
Grown from Agrost. No. 1684.	Grown from Agrost. No. 1161.
16405. MELILOTUS MACROSTACHYS.	16407. MELICA CALIFORNICA.
Grown from Agrost. No. 1553.	Grown in 1905 from Agrost. No. 1925.

## 16336 to 16470—Continued.

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|--|---|
| 16408. <i>Panicum</i> sp.<br>Crop of 1905.   | Bird seed.  |
| 16409. <i>Panicum</i> sp.<br>Grown in 1905 from Agrost. No. 2355.  | Hungarian millet.   |
| 16410. <i>Panicum crus-galli</i> .<br>Grown from Agrost. No. 1682.   | 16411. <i>Panicum crus-galli</i> .<br>Crop of 1905.   |
| 16412. <i>Panicum miliaceum</i> .<br>Grown from Agrost. No. 2620.  | Broom-corn millet.  |
| 16413. <i>Panicum miliaceum</i> .<br>Grown from Agrost. No. 2621.  | Broom-corn millet.  |
| 16414. <i>Panicum miliaceum</i> .<br>Mixt yellow and white broom-corn millet. Grown from Agrost. No. 2625.       | Broom-corn millet.  |
| 16415. <i>Panicum miliaceum</i> .<br>Grown from Agrost. No. 2626.  | Broom-corn millet.  |
| 16416. <i>Panicum miliaceum</i> .<br><i>White</i> . Grown from Agrost. No. 2627.                                 | Broom-corn millet.  |
| 16417. <i>Panicum miliaceum</i> .<br>Grown from Agrost. No. 2628.  | Broom-corn millet.  |
| 16418. <i>Panicum miliaceum</i> .<br>White seed; late variety. Grown from Agrost. No. 2629.                      | Broom-corn millet.  |
| 16419. <i>Panicum miliaceum</i> .<br>Grown in 1905 from seed obtained at Cusick, Wash.                           | Broom-corn millet.  |
| 16420. <i>Panicum miliaceum</i> .<br><i>White</i> . Grown from seed obtained in Germany.                         | Broom-corn millet.  |
| 16421. <i>Panicum miliaceum</i> .<br>Grown from Austrian seed.   | Broom-corn millet.  |
| 16422. <i>Panicum miliaceum</i> .<br>Austrian seed.  | Broom-corn millet.  |
| 16423. <i>Panicum miliaceum</i> .<br>Grown in 1904 at Usk, Wash.   | Broom-corn millet.  |
| 16424. <i>Pennisetum spicatum</i> .<br>Grown at Biggenden, Queensland. (Agrost. No. 2110.)                       | Pearl millet.   |
| 16425. <i>Phalaris arundinacea</i> .<br>Grown from seed obtained from J. M. Thorburn & Co., New York City, N. Y. | Reed canary grass.  |
| 16426 to 16432. <i>Phalaris canariensis</i> .  | Canary grass.   |
| 16426.<br>Grown from Agrost. No. 1683.   | 16430.<br>Grown from Agrost. No. 2334.  |
| 16427.<br>Grown from Agrost. No. 2331.   | 16431.<br>Grown from Agrost. No. 2335.  |
| 16428.<br>Grown from Agrost. No. 2332.   | 16432.<br>From Genoa, Italy. Obtained at the Louisiana Purchase Exposition in 1904. (Agrost. No. 2361.) |
| 16429.<br>Grown from Agrost. No. 2333.   |   |

## 16336 to 16470—Continued.

16433. PHILEUM PRATENSE. <i>Early.</i>	Timothy.
16434. PHILEUM PRATENSE. <i>Stewart's Mammoth.</i>	Timothy.
16435. PHILEUM PRATENSE. <i>Pasture.</i>	Timothy.
16436. PISUM ARVENSE. Grown from S. P. I. No. 1486.	Field pea.
16437. PISUM ARVENSE. Grown from S. P. I. No. 1487.	Field pea.
16438. PLANTAGO FASTIGIATA. Grown from seed originally obtained in Arizona.	
16439. PLANTAGO FASTIGIATA. Crop of 1904.	
16440. POA TRIFLORA. Grown at Cusick, Wash.	
16441. SPARTINA sp. Grown at Cusick, Wash.	
16442. SPARTINA CYNOSUROIDES.	
16443. STIPA TENACISSIMA. Grown from seed obtained from J. M. Thorburn & Co., New York, N. Y. (Agrost. No. 2216.)	Esparto grass.
16444. TRIFOLIUM PANNONICUM. Grown from S. P. I. No. 9817.	
16445. TRIFOLIUM PRATENSE. Grown in 1904 by Mr. C. R. Widmer, Albany, Oreg.	Red clover.
16446. TRIGONELLA FOENUM-GRÆCUM. Grown from Egyptian seed.	Fenugreek.
16447. VICIA sp. A variety similar to pearl vetch. Grown from Agrost. No. 2452.	Vetch.
16448. VICIA sp. Grown from S. P. I. No. 11200.	Vetch.
16449. VICIA sp. Grown at Ray, Wash.	Vetch.
16450. VICIA sp. Grown from S. P. I. No. 11199.	Vetch.
16451. VICIA sp. Grown from Agrost. No. 2454.	Vetch.
16452. VICIA ATROPURPUREA. Grown from S. P. I. No. 12135.	Vetch.
16453. VICIA BITHYNICA. Grown from S. P. I. No. 11230.	Vetch.
16454. VICIA CRACCA. Grown from S. P. I. No. 10283.	Vetch.
16455. VICIA CRACCA. Grown from Chinese seed.	Vetch.
16456. VICIA EGYPTICA.	Vetch.

**16336 to 16470—Continued.**

- 16457.** *Vicia faba*. Vetch.  
Grown from Agrost. No. 2463.
- 16458.** *Vicia fulgens*. Vetch.  
Grown from S. P. I. No. 11231.
- 16459.** *Vicia gigantea*. Vetch.  
Grown in 1904 at Clatskanie, Oreg. (Agrost. No. 613.)
- 16460.** *Vicia hirsuta*(?). Japan vetch.  
Grown from S. P. I. No. 9237.
- 16461.** *Vicia hirta*. Vetch.
- 16462.** *Vicia lutea*. Vetch.  
Grown from Algerian seed.
- 16463.** *Vicia micrantha*. Vetch.  
Grown from Agrost. No. 999.
- 16464.** *Vicia narbonneensis*. Vetch.  
Grown from S. P. I. No. 11232.
- 16465.** *Vicia sativa alba*. Pearl vetch.
- 16466.** *Vicia sativa*. Common vetch.  
Grown at Corvallis, Oreg.
- 16467.** *Vicia sativa alba*. Pearl vetch.  
Grown from seed from Mr. Henry Gilbrich, New Era, Oreg.
- 16468.** *Vicia sicula*. Vetch.  
Crop of 1904.
- 16469.** *Vicia sicula*. Vetch.  
Grown from Algerian seed.
- 16470.** *Vicia villosa*. Hairy vetch.  
Seed from Mr. Elliott.

- 16471.** *Andropogon halepensis*. Johnson grass.  
From St. Louis, Mo. Received thru D. J. Bushnell & Co., November 25, 1905.

**16472 and 16473.**

From Durban, Natal, South Africa. Received thru the Botanic Gardens, November 25, 1905.

- 16472.** *Arachis hypogaea*. Peanut.
- 16473.** *Voandzeia subterranea*. Woandzu.

- 16474.** *Lespedeza striata*. Japan clover.  
From Richmond, Va. Received thru T. W. Wood & Son, November 29, 1905.

- 16475.** *Lespedeza striata*. Japan clover.  
Received from the Office of Grass and Forage Plant Investigations of the Department of Agriculture, November, 1905. (Agrost. No. 1115.)

- 16476.** *Cucurbita* sp. Pumpkin.  
From Pretoria, South Africa. Received thru Prof. J. Burt Davy, of the Transvaal Department of Agriculture, November 27, 1905.

Boer.

**16477 to 16480. GARCINIA spp.**

From Sagua la Grande, Cuba. Received thru J. S. Montero & Bros., December 1, 1905.

**16477. GARCINIA COCHINCHINENSIS.**

**16479. GARCINIA HANBURYI.**

**16478. GARCINIA FERREA.**

**16480. GARCINIA INDICA.**

**16481. IBERVILLEA sp. (?)**

From Mexico. Received thru Dr. J. N. Rose, of the United States National Museum, who collected the seed in the summer of 1905.

"A very interesting, attractive vine, which grows in very dry districts. Fruit red." (*Rose.*)

**16482. CALYPTROGYNE DULCIS.**

From Santiago de las Vegas, Cuba. Received thru Departamento de Botánica, Estación Central Agronómica, November 28, 1905.

**16483 to 16485. ARACHIS HYPOGAEA.**

**Peanut.**

From Cat Island, S. C. Grown by Mr. J. H. Tull, special agent of the Department of Agriculture. Received November 20, 1905.

**16483.** Grown from S. P. I. No. 4253. From Cairo, Egypt.

**16484.** Grown from S. P. I. No. 9406. From Sao Paulo, Brazil.

**16485.** Grown from S. P. I. No. 11140. From Spain.

**16486. ARACHIS HYPOGAEA.**

**Peanut.**

From Japan. Received thru the Botanic Gardens, Durban, Natal, South Africa, December 2, 1905.

**16487. DIOSPYROS EBENUM.**

**Sapote negro.**

From Manila, P. I. Received thru Mr. Thomas L. Lyon, of the Insular Bureau of Agriculture, December 2, 1905.

"Wood reputed good, but variable in color. One of the most attractive of our broad-leaved evergreens. Fruits astringent." (*Lyon.*)

**16488. VICIA SATIVA ALBA.**

**Pearl vetch.**

From New Era, Oreg. Received thru Mr. Henry Gelbrich, December 5, 1905.

**16489. MELILOTUS ALBA.**

**Sweet clover.**

From Birmingham, Ala. Received thru the Amzi Golden Seed Company, December 4, 1905.

**16490 to 16494. JUNCUS spp.**

**Matting rush.**

Collected by Mr. J. H. Tull, special agent of the Department of Agriculture. Received December 5, 1905.

**16490. JUNCUS EFFUSUS.**

**16493. JUNCUS EFFUSUS CON-  
GLOMERATUS.**

Collected on Cat Island, S. C.

Collected on Cat Island, S. C.

**16491. JUNCUS EFFUSUS CON-  
GLOMERATUS.**

**16494. JUNCUS EFFUSUS CON-  
GLOMERATUS.**

Collected near Kinston, N. C.

Collected near Newbern, N. C.

**16492. JUNCUS EFFUSUS CON-  
GLOMERATUS.**

Collected on Black River road,  
near Georgetown, S. C.



**16495 to 16505.**

From the White House Propagating Gardens, Washington, D. C. Received December 5, 1905.

A collection of ornamentals.

**16495.** *CALATHEA ORNATA* MAJESTICA.

**16496.** *XANTHOSOMA* LINDENI.

**16497.** *CALATHEA* PULCHELLA.

**16498.** *CALATHEA* VANDENHECKEI.

**16499.** *CALATHEA* INTERMEDIA.

**16500.** *CALATHEA* WARSCEWICZII.

**16501.** *ISCHNOSIPHON* HIRSUTA.

**16502.** *MARANTA* WALLISI.

**16503.** *MARANTA* AMABILIS.

**16504.** *HOMALOMENA* WALLISI.

**16505.** *CALATHEA* (?) sp.

**16506. ARALIA CORDATA.**

**Udo.**

From Waseda, Tokyo, Japan. Received thru J. Ikeda & Co. December 5, 1905.

**16507. PANICUM sp.**

From Pretoria, South Africa. Received thru Prof. J. Burt Davy, of the Transvaal Department of Agriculture, December 5, 1905.

**16508. MEDICAGO SATIVA.**

**Alfalfa.**

From Amasia, Turkey. Received thru Mr. H. Caramanian, November 25, 1905.

**16509 to 16540.**

From Nancy, France. Received thru Victor Lemoine & Son, December 4, 1905.

**16509.** *ANEMONE* JAPONICA.

**16512.** *DEUTZIA* VILMORINAE.

**16510.** *ANEMONE* JAPONICA.

**16513.** *PHILADELPHUS* LEMOINEI.

**16511.** *DEUTZIA* MYRIANTHA.

**16514 to 16540.** *PHLOX* DECUSSATA.

**Perennial phlox.**

Named varieties.

**16541 to 16762. PAEONIA spp.**

**Peony.**

From Chenonceaux (Indre-et-Loire), France. Received thru Monsieur A. Desseret, December 2, 1905.

**16541 to 16642.** Named varieties of the Chinese herbaceous section.

**16643 to 16659.** Named varieties of the European herbaceous section.

**16660.** *PAEONIA ANOMALA* (or *SMOUTHII*).

**16662.** *PAEONIA TENUIFOLIA* FLORE PLENO.

**16661.** *PAEONIA TENUIFOLIA*.

**16663 to 16759.** *PAEONIA MOUTAN*. Named double varieties.

**16760 to 16762.** *PAEONIA MOUTAN*. Named single varieties.

**16763 and 16764.**

From the Office of Gardens and Grounds, Department of Agriculture. Received December 8, 1905.

**16763.** *CALATHEA* sp.

Rough-pubescent petiole basal;  
green thruout.

**16764.** *MARANTA* sp.

Near *Maranta arundinacea*, but  
with side shoots on culms.

**16765 to 16769.**

From the White House greenhouse, Public Buildings and Grounds, Washington, D. C. Received December 8, 1905.

**16765.** *MARANTA SPLENDIDA.*

**16768.** *CALATHEA ROSEO-PICTA.*

**16766.** *CALATHEA ARRECTA.*

**16769.** *CALATHEA UNDULATA.*

**16767.** *CALATHEA MAKYANA.*

**16770. ZEA MAYS.**

**Sweet corn.**

From North Clarendon, Vt. Received thru Mr. D. Dana Hewitt, December 11, 1905.

*White Malakof.* Grown from S. P. I. No. 13256. (Lot "A" selected from No. 16772.)

**16771. MEDICAGO DENTICULATA.**

**Bur clover.**

From San Francisco, Cal. Received thru the Jessup-Wheeler Company, December 11, 1905.

**16772. ZEA MAYS.**

**Sweet corn.**

From North Clarendon, Vt. Received thru Mr. D. Dana Hewitt, December 11, 1905.

*White Malakof.* Grown from S. P. I. No. 13256.

**16773 to 16780.**

From St. Louis, Mo. Received thru Mr. Fred Mueller, of the Missouri Botanical Gardens, December 11, 1905.

**16773.** *ALOCASIA MACRORRHIZA*  
*VARIEGATA.*

**16777.** *COLOCASIA INDICA.*

From Ceylon.

**16778.** *XANTHOSOMA* sp.

**16774.** *ALOCASIA ODORA.*

From Cuba.

From East Indies.

**16779.** *XANTHOSOMA VIOLA-*  
*CEUM.*

**16775.** *COLOCASIA* sp.

From West Indies.

From Mexico.

**16780.** (Undetermined.)

**16776.** *COLOCASIA ANTIQUORUM*  
*EUCHLORA.*

From India.

**16781 to 16784. ZEA MAYS.**

**Sweet corn.**

From North Clarendon, Vt. Received thru Mr. D. Dana Hewitt, December 11, 1905.

*White Malakof.*

**16781.** Grown from S. P. I. No. 13357.

**16782.** Grown from selection "B" of S. P. I. No. 13256.

**16783.** Grown from selection "G" of S. P. I. No. 13256.

**16784.** Grown from selection "C" of S. P. I. No. 13256.

**16785. HIBISCUS SABDARIFFA.**

**Roselle.**

From Mayaguez, P. R. Received thru the Porto Rico Experiment Station, December, 1905.

**16786. EUCALYPTUS CORYMBOSA.**

**Bloodwood.**

From Bowen, North Queensland, Australia. Received thru Mr. William Pettigrew, of the Queensland Acclimatization Society, December 6, 1905.

"One of the numerous species of Australian eucalyptus. A tree of medium size, with persistent flaky bark, often reported as stunted or shrubby in appearance, but

frequently attaining a height of 150 feet and a trunk diameter of 3 feet. It is restricted to the warmer and moister coast regions of northeast Australia, and, to judge by its absence in the interior, could hardly be expected to grow in a region subject to frost or extremes of dryness. The tree furnishes a wood that is easily worked when fresh, but exceedingly hard when dry. The presence of kino makes it unsuitable for lumber or fuel, but also serves to make it very durable underground and resistant to white ants; hence it is very valuable for railroad ties, posts, culverts, for paving, and for other uses in underground situations. Fence posts of this material are reported to have lasted for forty years in Australia. The bark yields 28 per cent tannic acid and the leaves about 18 per cent. The creamy white flowers of this tree contain a large amount of nectar and are much visited by bees. The tree is also one of the sources of the kino of commerce." (*McClatchie.*)

**16787. GARCINEA SPICATA.****Fukuji tree.**

From Riu Kiu Islands, Japan. Received thru Mr. H. E. Amooore, December 11, 1905.

"An ideal wind-break." (*Amooore.*)

**16788. NICOTIANA TABACUM.****Tobacco.**

From Morrinhos, State of Goyaz, Brazil. Selected by Mr. Antonio Borges Sam-paio, of Uberaba, Minas-Geraes, and sent in by Dr. H. M. Lane, of Sao Paulo, Brazil. Received December 15, 1905.

"The famous *Morrinhos* tobacco. The tobacco grown in Sao Paulo and Goyaz is probably from seed brought from the Orient by the early Portuguese settlers, who took great pains to keep it pure. Goyaz is located in the mountainous region of Brazil, about 700 miles northwest of Rio de Janeiro, in latitude 16° S., where the mean annual temperature is 80°, with a maximum of 104° and a minimum of 25°." (*Lane.*)

**16789 to 16796.**

From Hangchow, China. Received thru Mr. Frederick D. Cloud, United States vice-consul, December 15, 1905.

**16789. GLYCINE HISPIDA.****Soy bean.**

*Yellow.* An oil bean.

**16790. GLYCINE HISPIDA.****Soy bean.**

*Black.* An excellent table bean.

**16791. PHASEOLUS sp.****Bean.****16792. ANDROPOGON SORGHUM.****Sorghum.****16793. PHASEOLUS RADIATUS.****Mung bean.****16794. VIGNA SESQUIPEDALIS (?).**

"Grow with long pod and bear well. Used as a vegetable." (*Cloud.*)

**16795. VIGNA SINENSIS (?).****Cowpea.**

"Very different from preceding. More prolific, shorter pod, and a better eating bean." (*Cloud.*)

**16796. GLYCINE HISPIDA.****Soy bean.**

*Black.*

"All of these varieties are largely grown in China and, as in the case of the yellow soy bean, are very valuable. The black soy bean is extensively grown in the north for forage purposes and constitutes the principal article of food for horses, donkeys, and cattle. It is also a good table bean. This bean mixed with 'kaoliang' (sorghum) seed, chopped grass, or straw, with a little bran, makes the very best horse feed. Perhaps the 'kaoliang' is the most highly prized of all forage plants grown in China. No part of the plant goes to waste. Two or three weeks before the plant matures and the seed is ripe the farmer strips nearly all the blades from the plant, ties them in bundles, allows them to cure in the sun for a few days, and then stacks them away

**16789 to 16796—Continued.**

indoors. All thru the winter these blades are keenly relished by horses and donkeys. Then the seeds are gathered, combed out, and marketed. Several varieties of alcohol and wines are made from these seeds, and the deadly native drink 'sam-shu'—at least one variety of it—is made from 'kaoliang' seed. The seed makes excellent feed for stock of all kinds. The long stalks are thrown on the thrashing floor, rolled flat by heavy stone rollers, carefully cleaned of all particles of pith, and woven into a great variety of mats and matting, suitable for use on floors, for window shades, or for the roofs of native houses and sheds. These stalks are also extensively used for fuel by the farming class. It is a most valuable crop and may be found thru-out all the northern provinces. Not grown much as far south as Hang-chow.

"The yellow bean (16789) is the 'bean-cake' bean so extensively grown in the Manchurian provinces and is a most valuable crop. May be grown southward, but flourishes best in colder latitudes." (*Clond.*)

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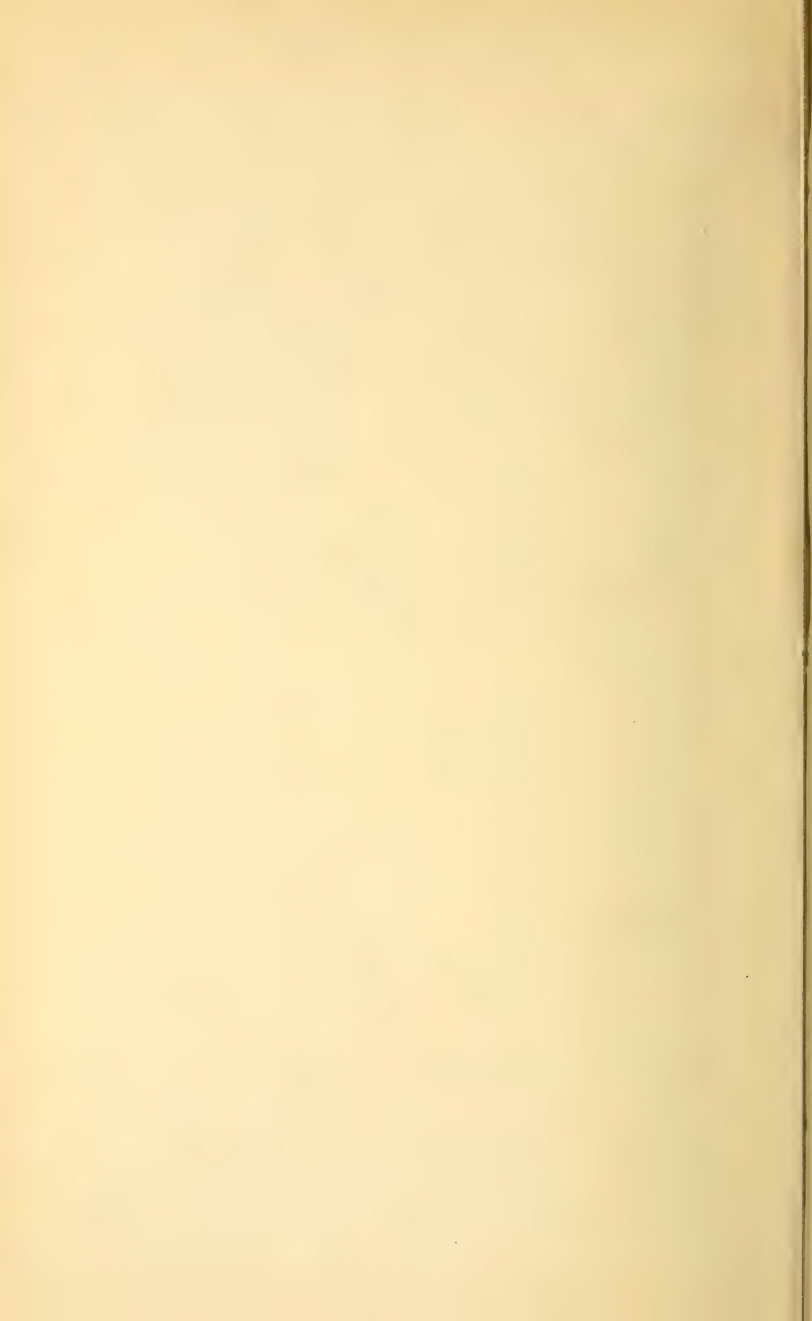
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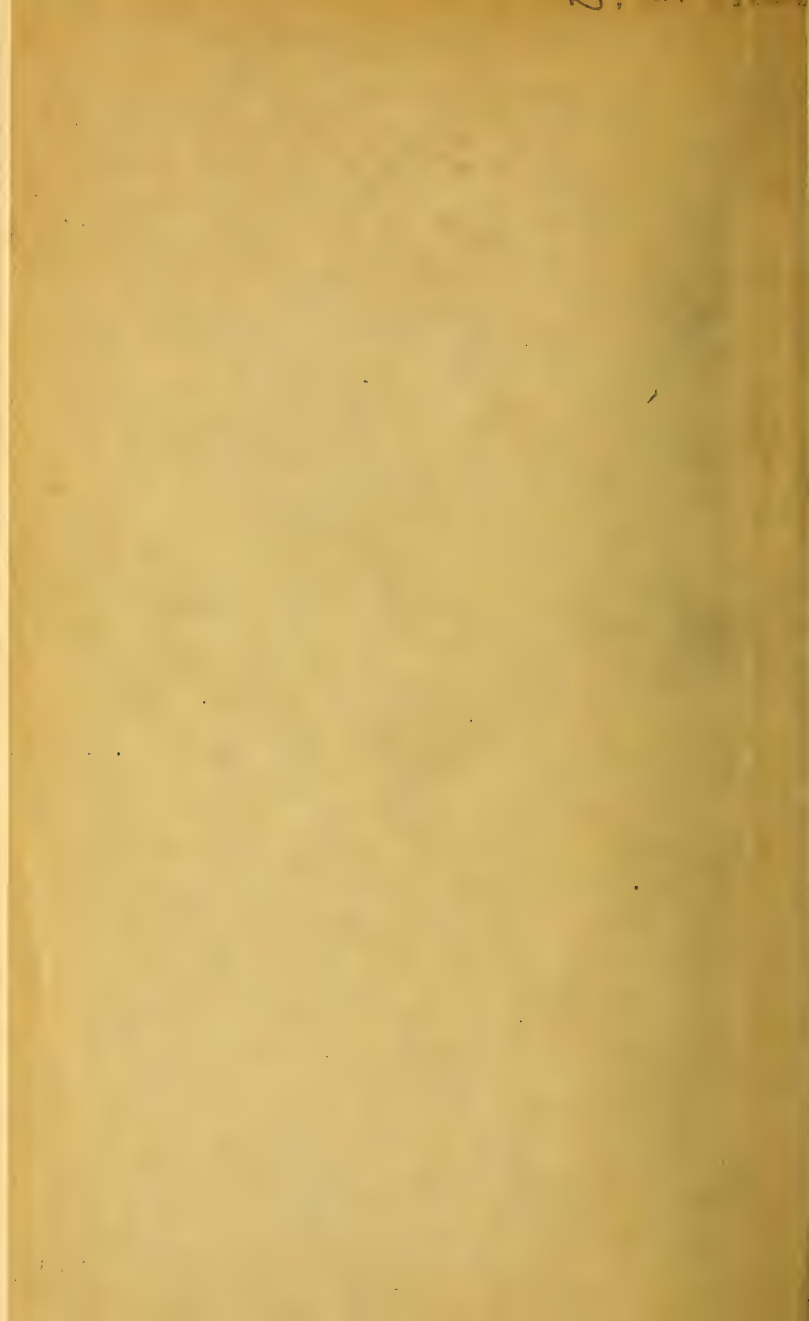
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52. Wither-Tip and Other Diseases of Citrus Trees and Fruits Caused by *Colletotrichum Gloeosporioides*. 1904. Price, 15 cents.
53. The Date Palm. 1904. Price, 20 cents.
54. Persian Gulf Dates. 1903. Price, 10 cents.
55. The Dry Rot of Potatoes. 1904. Price, 10 cents.
56. Nomenclature of the Apple. 1905. Price, 30 cents.
57. Methods Used for Controlling Sand Dunes. 1904. Price, 10 cents.
58. The Vitality and Germination of Seeds. 1904. Price, 10 cents.
59. Pasture, Meadow, and Forage Crops in Nebraska. 1904. Price, 10 cents.
60. A Soft Rot of the Calla Lily. 1904. Price, 10 cents.
61. The Avocado in Florida. 1904. Price, 5 cents.
62. Notes on Egyptian Agriculture. 1904. Price, 10 cents.
63. Investigations of Rusts. 1904. Price, 10 cents.
64. A Method of Destroying or Preventing the Growth of Algae and Certain Pathogenic Bacteria in Water Supplies. 1904. Price, 5 cents.
65. Reclamation of Cape Cod Sand Dunes. 1904. Price, 10 cents.
66. Seeds and Plants Imported. Inventory No. 10. 1905. Price, 20 cents.
67. Range Investigations in Arizona. 1904. Price, 15 cents.
68. North American Species of *Agrostis*. 1905. Price, 10 cents.
69. American Varieties of Lettuce. 1904. Price, 15 cents.
70. The Commercial Status of Durum Wheat. 1904. Price, 10 cents.
71. Soil Inoculation for Legumes. 1905. Price, 15 cents.
72. Miscellaneous Papers: I. Cultivation of Wheat in Permanent Alfalfa Fields. II. The Salt Water Limits of Wild Rice. III. Extermination of Johnson Grass. IV. Inoculation of Soil with Nitrogen-Fixing Bacteria. 1905. Price, 5 cents.
73. The Development of Single-Germ Beet Seed. 1905. Price, 10 cents.
74. Prickly Pear and Other Cacti as Food for Stock. 1905. Price, 5 cents.
75. Range Management in the State of Washington. 1905. Price, 5 cents.
76. Copper as an Algicide and Disinfectant in Water Supplies. 1905. Price, 5 cents.
77. The Avocado, a Salad Fruit from the Tropics. 1905. Price, 5 cents.
78. Improving the Quality of Wheat. 1905. Price, 10 cents.
79. The Variability of Wheat Varieties in Resistance to Toxic Salts. 1905. Price, 5 cents.
80. Agricultural Explorations in Algeria. 1905. Price, 10 cents.
81. Evolution of Cellular Structures. 1905. Price, 5 cents.
82. Grass Lands of the South Alaska Coast. 1905. Price, 10 cents.
83. The Vitality of Buried Seeds. 1905. Price, 5 cents.
84. The Seeds of the Bluegrasses. 1905. Price, 5 cents.
85. The Principles of Mushroom Growing. 1905. Price, 10 cents.
86. Agriculture without Irrigation in Sahara Desert. 1905. Price, 5 cents.
87. Disease Resistance of Potatoes. 1905. Price, 5 cents.
88. Weevil-Resisting Adaptations of Cotton Plant. 1906. Price, 10 cents.
89. Wild Medicinal Plants of the United States. 1906. Price, 5 cents.
90. Miscellaneous Papers: I. The Storage and Germination of Wild Rice Seed. II. The Crown-Gall and Hairy-Root Diseases of the Apple Tree. III. Peppermint. IV. The Poisonous Action of Johnson Grass. 1906. Price, 5 cents.
91. Varieties of Tobacco Seed Distributed, etc. 1906. Price, 5 cents.
92. Date Varieties and Date Culture in Tunis. 1906. Price, 25 cents.
93. The Control of Apple Bitter-Rot. 1906. Price, 10 cents.
94. Farm Practice with Forage Crops in Western Oregon and Western Washington. 1906. Price, 10 cents.
95. A New Type of Red Clover. 1906. Price, 10 cents.
96. Tobacco Breeding. [In press.]





Mr. Harlan  
U. S. DEPARTMENT OF AGRICULTURE.

BUREAU OF PLANT INDUSTRY—BULLETIN NO. 106.

B. T. GALLOWAY, *Chief of Bureau.*

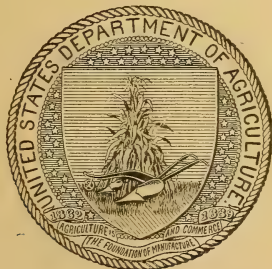
# SEEDS AND PLANTS IMPORTED

DURING THE PERIOD FROM DECEMBER, 1905,  
TO JULY, 1906.

INVENTORY No. 12; Nos. 16797 to 19057.

Mr. Harlan

ISSUED DECEMBER 20, 1907.



WASHINGTON:  
GOVERNMENT PRINTING OFFICE.

1907.

## BULLETINS OF THE BUREAU OF PLANT INDUSTRY.

The scientific and technical publications of the Bureau of Plant Industry, which was organized July 1, 1901, are issued in a single series of bulletins, a list of which follows.

Attention is directed to the fact that the publications in this series are not for general distribution. The Superintendent of Documents, Government Printing Office, Washington, D. C., is authorized by law to sell them at cost, and to him all applications for these bulletins should be made, accompanied by a postal money order for the required amount or by cash.

- No. 1. Relation of Lime and Magnesia to Plant Growth. 1901. Price, 10 cents.
2. Spermatogenesis and Fecundation of *Zamia*. 1901. Price, 20 cents.
3. Macaroni Wheats. 1901. Price, 20 cents.
4. Range Improvement in Arizona. 1901. Price, 10 cents.
5. Seeds and Plants Imported. Inventory No. 9. 1902. [Exhausted.]
6. A List of American Varieties of Peppers. 1902. Price, 10 cents.
7. The Algerian Durum Wheats. 1902. Price, 15 cents.
8. A Collection of Fungi Prepared for Distribution. 1902. [Exhausted.]
9. The North American Species of *Spartina*. 1902. Price, 10 cents.
10. Records of Seed Distribution, etc. 1902. Price, 10 cents.
11. Johnson Grass. 1902. Price, 10 cents.
12. Stock Ranges of Northwestern California. 1902. Price, 15 cents.
13. Range Improvement in Central Texas. 1902. Price, 10 cents.
14. Decay of Timber and Methods of Preventing It. 1902. [Exhausted.]
15. Forage Conditions on the Border of the Great Basin. 1902. Price, 15 cents.
16. Germination of the Spores of *Agaricus Campestris*, etc. 1902. [Exhausted.]
17. Some Diseases of the Cowpea. 1902. Price, 10 cents.
18. Observations on the Mosaic Disease of Tobacco. 1902. [Exhausted.]
19. Kentucky Bluegrass Seed. 1902. [Exhausted.]
20. Manufacture of Semolina and Macaroni. 1902. Price, 15 cents.
21. List of American Varieties of Vegetables. 1903. [Exhausted.]
22. Injurious Effects of Premature Pollination. 1902. Price, 10 cents.
23. Berseem. 1902. [Exhausted.]
24. Unfermented Grape Must. 1902. Price, 10 cents.
25. Miscellaneous Papers. 1903. Price, 15 cents.
26. Spanish Almonds. 1902. [Exhausted.]
27. Letters on Agriculture in the West Indies, Spain, etc. 1902. Price, 15 cents.
28. The Mango in Porto Rico. 1903. [Exhausted.]
29. The Effect of Black Rot on Turnips. 1903. Price, 15 cents.
30. Budding the Pecan. 1902. Price, 10 cents.
31. Cultivated Forage Crops of the Northwestern States. 1902. Price, 10 cents.
32. A Disease of the White Ash. 1903. Price, 10 cents.
33. North American Species of *Leptochloa*. 1903. Price, 15 cents.
34. Silkworm Food Plants. 1903. Price, 15 cents.
35. Recent Foreign Explorations. 1903. Price, 15 cents.
36. The "Bluing" of the Western Yellow Pine, etc. 1903. Price, 30 cents.
37. Formation of the Spores of the Sporangia of *Rhizopus Nigricans* and of *Phycomyces Nitens*. 1903. Price, 15 cents.
38. Forage Conditions in Eastern Washington, etc. 1903. Price, 15 cents.
39. The Propagation of the Easter Lily from Seed. 1903. Price, 10 cents.
40. Cold Storage with Reference to the Pear and Peach. 1903. Price, 15 cents.
41. The Commercial Grading of Corn. 1903. Price, 10 cents.
42. Three New Plant Introductions from Japan. 1903. [Exhausted.]
43. Japanese Bamboos. 1903. Price, 10 cents.
44. The Bitter-Rot of Apples. 1903. [Exhausted.]
45. Physiological Role of Mineral Nutrients in Plants. 1903. Price, 5 cents.
46. Propagation of Tropical Fruit Trees, etc. 1903. [Exhausted.]
47. The Description of Wheat Varieties. 1903. Price, 10 cents.
48. The Apple in Cold Storage. 1903. Price, 15 cents.
49. Culture of the Central American Rubber Tree. 1903. Price, 25 cents.
50. Wild Rice: Its Uses and Propagation. 1903. Price, 10 cents.
51. Miscellaneous Papers. 1905. Price, 5 cents.

[Continued on page 3 of cover.]

U. S. DEPARTMENT OF AGRICULTURE.

BUREAU OF PLANT INDUSTRY—BULLETIN NO. 106.

B. T. GALLOWAY, *Chief of Bureau.*

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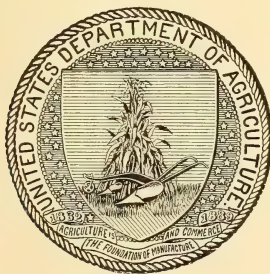
# SEEDS AND PLANTS IMPORTED

DURING THE PERIOD FROM DECEMBER, 1905,  
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INVENTORY No. 12; Nos. 16797 to 19057.

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ISSUED DECEMBER 20, 1907.



WASHINGTON:  
GOVERNMENT PRINTING OFFICE.  
1907.

## BUREAU OF PLANT INDUSTRY.

*Pathologist and Physiologist, and Chief of Bureau*, Beverly T. Galloway.  
*Pathologist and Physiologist, and Assistant Chief of Bureau*, Albert F. Woods.  
*Laboratory of Plant Pathology*, Erwin F. Smith, Pathologist in Charge.  
*Investigations of Diseases of Fruits*, Merton B. Waite, Pathologist in Charge.  
*Laboratory of Forest Pathology*, Haven Metcalf, Pathologist in Charge.  
*Plant Life History Investigations*, Walter T. Swingle, Physiologist in Charge.  
*Cotton and Tobacco Breeding Investigations*, Archibald D. Shamel, Physiologist in Charge.  
*Corn Investigations*, Charles P. Hartley, Physiologist in Charge.  
*Alcohol and Dioxane Resistant Plant Breeding Investigations*, Thomas H. Kearney, Physiologist in Charge.  
*Soil Bacteriology and Water Purification Investigations*, Karl F. Kellerman, Physiologist in Charge.  
*Bionomic Investigations of Tropical and Subtropical Plants*, Orator F. Cook, Bionomist in Charge.  
*Dung and Manure Plant Investigations and Tea Culture Investigations*, Rodney H. True, Physiologist in Charge.  
*Physical Laboratory*, Lyman J. Briggs, Physicist in Charge.  
*Crop Technology Investigations*, Nathan A. Cobb, Expert in Charge.  
*Taxonomic Investigations*, Frederick V. Coville, Botanist in Charge.  
*Farm Management Investigations*, William J. Spillman, Agriculturist in Charge.  
*Grain Investigations*, Mark A. Carleton, Cerealist in Charge.  
*Arlington Experimental Farm*, Lee C. Corbett, Horticulturist in Charge.  
*Sugar-Beet Investigations*, Charles O. Townsend, Pathologist in Charge.  
*Western Agricultural Extension Investigations*, Carl S. Scofield, Agriculturist in Charge.  
*Dry Land Agriculture Investigations*, E. Channing Chilcott, Agriculturist in Charge.  
*Pomological Collections*, Gustavus B. Brackett, Pomologist in Charge.  
*Field Investigations in Pomology*, William A. Taylor and G. Harold Powell, Pomologists in Charge.  
*Experimental Gardens and Grounds*, Edward M. Byrnes, Superintendent.  
*Vegetable Testing Gardens*, W. W. Tracy, sr., Superintendent.  
*Seed and Plant Introduction*, David Fairchild, Agricultural Explorer in Charge.  
*Forage Crop Investigations*, Charles V. Piper, Agrostologist in Charge.  
*Seed Laboratory*, Edgar Brown, Botanist in Charge.  
*Grain Standardization*, John D. Shanahan, Expert in Charge.  
*Subtropical Laboratory and Garden, Miami, Fla.*, Ernst A. Bessey, Pathologist in Charge.  
*Plant Introduction Garden, Chico, Cal.*, August Mayer, Expert in Charge.  
*South Texas Garden, Brownsville, Tex.*, Edward C. Green, Pomologist in Charge.  
*Cotton Culture Farms*, Seaman A. Knapp, Lake Charles, La., Special Agent in Charge.

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*Editor*, J. E. Rockwell.

*Chief Clerk*, James E. Jones.

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## SEED AND PLANT INTRODUCTION.

### SCIENTIFIC STAFF.

David Fairchild, *Agricultural Explorer in Charge.*

O. W. Barrett, *Assistant.*

Frank N. Meyer, *Agricultural Explorer.*

Charles F. Wheeler, *Expert.*

Walter Fischer, *Scientific Assistant.*

R. A. Young, *Scientific Assistant.*

Albert Mann, *Expert in Charge of Barley Investigations.*

F. W. Clarke, *Special Agent in Charge of Matting Plant Investigations.*



## LETTER OF TRANSMITTAL.

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U. S. DEPARTMENT OF AGRICULTURE,  
BUREAU OF PLANT INDUSTRY,  
OFFICE OF THE CHIEF,  
*Washington, D. C., April 13, 1907.*

SIR: I have the honor to transmit herewith, and to recommend for publication as Bulletin No. 106 of the series of this Bureau, the accompanying manuscript, entitled "Seeds and Plants Imported During the Period from December, 1905, to July, 1906."

This manuscript has been submitted by the Agricultural Explorer in Charge of Seed and Plant Introduction with a view to publication.

Respectfully,

B. T. GALLOWAY,  
*Chief of Bureau.*

Hon. JAMES WILSON,  
*Secretary of Agriculture.*



## SEEDS AND PLANTS IMPORTED DURING THE PERIOD FROM DECEMBER, 1905, TO JULY, 1906.

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### INTRODUCTORY STATEMENT.

This twelfth inventory of seeds and plants imported, prepared under the immediate supervision of Mr. Walter Fischer, represents the accessions of this Office between the dates of December 15, 1905, and July 27, 1906, a period of about seven months. It contains 2,260 items, which is as large a number as was represented by the collections of a whole year when this Office was organized in 1898, notwithstanding the fact that the present lists are the result of a more rigid selection than at the outset.

To the outsider it may seem strange that larger numbers of plants and seeds are not accumulated in so long a period. To these it may be said that it is not the object of the work of plant introduction to collect as many species and varieties of plants which may have some economic use in this country as is possible, but rather to carefully collect only such forms as can be put to a really practical use by American cultivators. This Office is informed of hosts of useful plants now growing in different parts of the world which are not yet on the program of practical plant introduction. At a small expense thousands of these useful plants could be gathered and placed in collections, but the cost of maintaining any one of them would in a few years far exceed the cost of procuring it anew for the definite experiments of the experts of the country who may want it for breeding purposes, as a stock on which to graft, or as a possible new crop for hitherto unused lands.

The principle, then, of systematic plant introduction, as it is carried on by this Office, is to get the seeds and plants that are wanted for the solution of definite problems in the establishment of new plant industries; import them in sufficient quantities for large and conclusive experiments, and place them as soon as possible in the hands of experts who will carry out at once such experiments.

Among the collections of new introductions included in this inventory there are some that are worthy of special mention here. Principal among these are the collections of our agricultural explorer

Mr. Frank N. Meyer, who was sent out to northern China in the summer of 1905 and who has been exploring the remarkable plant regions of the mountains north and west of Peking. His finds, coming as they do from a region with as severe a winter as that of the Middle States, will surely be, we believe, valuable to plant growers over a wide range of territory. In fact, the preliminary trials that have been made with these North Chinese plants in this country show that as a rule they have a degree of hardiness and resistance to disease which their close relatives from Japan, now so abundantly represented in our gardens and fields, do not possess. Mr. Meyer's explorations have been made into different places, difficult and sometimes dangerous of access, and at no little sacrifice of personal comfort and risk to his health and safety. The collections cover a wide range of things for which there is a demand already created by breeding, grafting, and other experiments which have been carried on in this country during the past decade. The material sent in is now in process of propagation, and as soon as ready will be sent out to experimenters.

Other collections worthy of notice are a number of new sorghums from tropical Africa, the home of the sorghum plant; a collection of the interesting new wet-land root crop, the yautia, from Porto Rico; some interesting new forms of potato from Bolivia; leguminous plants for breeding as fodder producers, collected from various parts of the world; forage and fodder grasses in large numbers from many different foreign countries; the Queensland nut *Macadamia*, which is a possibility for California; the South China soap tree, which has recently come into some prominence in Algeria as a source of saponin, a commercial product used in the manufacture of soaps; a collection of hardy grass and forage plant seed from the Austrian Alpine garden at an altitude of 5,700 feet; three new pistache species for breeding and for stocks on which to graft the ordinary edible variety of this nut, from the borders of Afghanistan, North China, and northern Persia; a collection of West Indian yams, promising possibilities as a change from the monotony of the Irish potato; a number of new Mexican apricots for the fruit-growing areas of Texas and the Gulf States; and a very important collection of the edible-fruited and fodder cacti, made by the cactus expert of the Department, Dr. David Griffiths, who has made experimental plantings of these most interesting plants in the dry regions of the Southwest.

DAVID FAIRCHILD,  
*Agricultural Explorer in Charge*

OFFICE OF SEED AND PLANT INTRODUCTION,  
*Washington, D. C., April 12, 1907.*

# INVENTORY.

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## 16797 to 16806.

From Budapest. Presented by Dr. A. de Degen, director of the Royal Hungarian Seed Control. Received December 15, 1905.

Seeds of native Hungarian grasses, as follows:

- |  |                                      |
|--|--------------------------------------|
| 16797. <i>BROMUS VERNALIS.</i>           | 16802. <i>FESTUCA ELATIOR.</i>       |
| 16798. <i>BROMUS PANNONICUS.</i>         | 16803. <i>PIPTATHERUM VIRESCENS.</i> |
| 16799. <i>AVENA DECORA.</i>              | 16804. <i>GLYCERIA NEMORALIS.</i>    |
| 16800. <i>ALOPECURUS BRACHYSTACHYUS.</i> | 16805. <i>POA HYBRIDA.</i>           |
| 16801. <i>FESTUCA CARPATHICA.</i>        | 16806. <i>POA CHAIXII.</i>           |

## 16807. *ORYZA SATIVA.*

## Upland rice.

From Pretoria, Transvaal, South Africa. Presented by Prof. J. Burt Davy, agrostologist and botanist of the Department of Agriculture. Received December 18, 1905.

"Seed grown in a subtropical valley near Sucre, Bolivia, at an altitude of about 10,000 feet. It is treated as a dry-land crop, like maize." (*Davy.*)

## 16808. *RUBUS* sp.

## Red raspberry.

From Baguio, Benguet Province, P. I. Presented by Mr. W. S. Lyon, Bureau of Agriculture, Manila, P. I. Received December 11, 1905.

## 16809. *PANICUM MOLLE.*

## Para grass.

From Georgetown, British Guiana. Presented by Mr. A. W. Bartlett, government botanist. Received December 19, 1905.

"A valuable grass for pasture and forage in the Tropics. This grass grows luxuriantly in damp meadows and is readily eaten by horses, cattle, and sheep." (*Bartlett.*)

## 16810. *XANTHOSOMA* sp.

## Yautia.

From Ancon, Panama. Presented by Mr. George F. Halsey. Received December 19, 1906.

"Tubers of a plant locally called *Oto*, *Coco*, or *Comorata*. It is very hardy and grows best in a well loosened, moist soil, and the tubers can be cut into many sections and planted like potatoes." (*Halsey.*)

## 16811. *VICIA AMERICANA.*

## American vetch.

From Fergus Falls, Minn. Presented by Mr. C. J. Wright. Received December 20, 1905.

This is a native vetch which grows wild in woods and copses in the northeastern United States. It is much relished by stock and might perhaps be cultivated to some extent with profit.



**16812. VIGNA UNGUICULATA.****Cowpea.**

From West Branch, Mich. Received through Ogeman Grain and Seed Company, December 20, 1905.

**16813 to 16820.**

From Office of Drug and Medicinal Plant Investigations. Received through Dr. R. H. True, December 9, 1905.

Seeds of medicinal plants, as follows:

**16813. DIGITALIS PURPUREA.****Purple foxglove.**

"The common purple foxglove cultivated in some parts of Europe for its leaves, which are a valuable remedy. The leaves are officinal when picked during the time of flowering. This is one of the most important remedies in certain kinds of heart trouble." (True.)

**16814. LOBELIA INFLATA.****Indian tobacco.**

"A native weed in open situations of the eastern United States. Both seed and herb collected for drug purposes. Has an emetic, expectorant, and anti-spasmodic action. Is a strong poison, capable of producing fatal results." (True.)

**16815. ATROPA BELLADONNA.****Belladonna.**

"Cultivated in several parts of Europe for the leaves and roots, which form one of the chief sources of atropine. The attractive looking fruits also contain atropine and are not rarely eaten by children with fatal results. Is sparingly cultivated in the United States for drug purposes." (True.)

**16816. NEPETA CATARIA.****Catnip.**

"A common weed of the United States, collected in its wild condition for drug purposes. It is valued as a domestic remedy for its carminative, stimulant, and tonic properties, due to the volatile oil present in the herb." (True.)

**16817. CAPSICUM FASTIGIATUM.****Japanese chillies.**

"Cultivated in the Orient for the small bright red fruits, having a very pungent taste. Used in medicine for the digestant and rubifacient properties, and also for making the ground cayenne peppers of the spice market." (True.)

**16818. CAPSICUM FASTIGIATUM.****Small capsicum.****16819. PAPAVER SOMNIFERUM.****Asiatic poppy.**

"A blue-seeded variety cultivated in the Orient as a source of opium, and in parts of Europe for the seeds, from which an agreeable bland oil is expressed. Seeds from plants grown at Burlington, Vt." (True.)

**16820. PAPAVER SOMNIFERUM.****Asiatic poppy.**

A white-seeded variety to which the same remarks apply as to the preceding.

**16821 to 16852.**

From the Office of Farm Management Investigations. Received December 21, 1905.

A collection of grass seeds, as follows:

**16821. BROMUS RUBENS.**

From Caliente, Kern County, Cal., July 2, 1904. (Agrost. 2132.)

**16822. BROMUS sp.**

From Arizona, 1904. (Agrost. 2134.)

**16823. BROMUS INERMIS.****Smooth brome-grass.**

From Argentina. Peluff's collection, 1904. (Agrost. 2440.)

**16824. BROMUS INERMIS.****Smooth brome-grass.**

From Arezzo, Italy, 1904. (Agrost. 2351.)

**16821 to 16852—Continued.**

<b>16825.</b> <i>BROMUS INERMIS.</i> From Austria-Hungary. Peluff's collection, 1904. (Agrost. 2449.)	<b>Smooth brome-grass.</b>
<b>16826.</b> <i>BROMUS PRATENSIS.</i> From Padua, Italy, 1904. (Agrost. 2373.)	<b>Meadow brome-grass.</b>
<b>16827.</b> <i>BROMUS UNIOLOIDES.</i> (Agrost. 2448.)	<b>Rescue grass.</b>
<b>16828.</b> <i>AGROSTIS STOLONIFERA.</i> (Agrost. 2323.)	<b>Creeping bent-grass.</b>
<b>16829.</b> <i>AGROSTIS ALBA.</i> (Agrost. 2443.)	<b>Bedtop.</b>
<b>16830.</b> <i>AGROSTIS ALBA.</i> From Milan, Italy, 1904. (Agrost. 2340.)	<b>Redtop.</b>
<b>16831.</b> <i>AGROSTIS ALBA.</i> From Naples, Italy, 1904. (Agrost. 2341.)	<b>Redtop.</b>
<b>16832.</b> <i>AGROSTIS ALBA.</i> From Rome, Italy, 1904. (Agrost. 2370.)	<b>Redtop.</b>
<b>16833.</b> <i>PANICULARIA AMERICANA.</i> From J. M. Thorburn & Co., New York, N. Y.	
<b>16834.</b> <i>POA NEMORALIS.</i> From Italy, 1904. (Agrost. 2360.)	<b>Wood meadow grass.</b>
<b>16835.</b> <i>POA PRATENSIS.</i> From Padua, Italy, 1904. (Agrost. 2350.)	<b>Kentucky bluegrass.</b>
<b>16836.</b> <i>POA PRATENSIS.</i> From Treviso, Italy, 1904. (Agrost. 2356.)	<b>Kentucky bluegrass.</b>
<b>16837.</b> <i>LOLIUM PERENNE.</i> (Agrost. 2319.)	<b>Perennial rye-grass.</b>
<b>16838.</b> <i>LOLIUM PERENNE.</i> (Agrost. 2329.)	<b>Perennial rye-grass.</b>
<b>16839.</b> <i>LOLIUM PERENNE.</i> (Agrost. 2330.)	<b>Perennial rye-grass.</b>
<b>16840.</b> <i>LOLIUM PERENNE.</i> From Turin, Italy, 1904. (Agrost. 2344.)	<b>Perennial rye-grass.</b>
<b>16841.</b> <i>LOLIUM PERENNE.</i> From Milan, Italy, 1904. (Agrost. 2362.)	<b>Perennial rye-grass.</b>
<b>16842.</b> <i>LOLIUM PERENNE.</i> From Naples, Italy, 1904. (Agrost. 2365.)	<b>Perennial rye-grass.</b>
<b>16843.</b> <i>LOLIUM PERENNE.</i> From Florence, Italy, 1904. (Agrost. 2369.)	<b>Perennial rye-grass.</b>
<b>16844.</b> <i>LOLIUM PERENNE.</i> From Genoa, Italy, 1904. (Agrost. 2375.)	<b>Perennial rye-grass.</b>
<b>16845.</b> <i>LOLIUM ITALICUM.</i> From Mantova, Italy, 1904. (Agrost. 2342.)	<b>Italian rye-grass.</b>
<b>16846.</b> <i>LOLIUM ITALICUM.</i> From Italy, 1904. Agrost. 2367.)	<b>Italian rye-grass.</b>

**16821 to 16852—Continued.**

- 16847.** *LOLIUM ITALICUM.* Italian rye-grass.  
From Conegliano, Italy, 1904. (Agrost. 2371.)
- 16848.** *FESTUCA PRATENSIS.* Meadow fescue.  
From Argentina. Peluff's collection, 1904. (Agrost. 2474.)
- 16849.** *ALOPECURUS PRATENSIS.* Meadow foxtail.  
(Agrost. 2324.)
- 16850.** *DACTYLIS GLOMERATA.* Orchard grass.  
From Padua, Italy, 1904. (Agrost. 2377.)
- 16851.** *PHLEUM PRATENSE.* Timothy.  
From Rome, Italy, 1904. (Agrost. 2366.)
- 16852.** *HEDYSARUM CORONARIUM.* Sulla.  
From Naples, Italy, 1904. (Agrost. 2397.)

- 16853.** *OXALIS ORTICENS.* Oxalis.  
From Washington, D. C. Received through the National Botanic Garden, December 21, 1905.

- 16854 to 16861.** *SORGHUM VULGARE.* Sorghum.  
From Berlin, Germany. Presented by the Berlin Botanical Museum. Received December 20, 1905.

Sorghum varieties from tropical Africa, as follows:

- |                                   |                                 |
|-----------------------------------|---------------------------------|
| <b>16854.</b> <i>Orulifer.</i>    | <b>16858.</b> <i>Orulifer.</i>  |
| <b>16855.</b> <i>Usaramensis.</i> | <b>16859.</b> <i>Jucundus.</i>  |
| <b>16856.</b> <i>Roxburghii.</i>  | <b>16860.</b> <i>Baumannii.</i> |
| <b>16857.</b> <i>Densissimus.</i> | <b>16861.</b> <i>Baumannii.</i> |

**16862 to 16865.**

From College Park, Md. Received through Mr. H. A. Miller, Agricultural Experiment Station, December 20, 1905.

- 16862.** *HORDEUM VULGARE.* Barley.  
*Tennessee Winter.* (C. I. No. 257.)
- 16863.** *AVENA SATIVA.* Oat.  
*Sixty-Day.* (C. I. No. 165.)
- 16864.** *AVENA SATIVA.* Oat.  
*Snoma.* (C. I. No. 274.)
- 16865.** *AVENA SATIVA.* Oat.  
*Burt.* (C. I. No. 293.)

- 16866.** *DIOSCOREA TRIFIDA.* Yampee yam.  
From the Canal Zone. Presented by Mr. George F. Halsey. Received December 27, 1905.

"Roots of a variety apparently distinct from the Jamaica and Porto Rico varieties. This variety should be cultivated in hills and is said to be very productive. The roots are yellowish inside." (Burrett.)

- 16867.** *SYNCARPLA LAURIFOLIA.* Turpentine tree.  
From Melbourne, Australia. Presented by Prof. W. R. Guilfoyle, director of the Botanic Gardens. Received December 29, 1905.

**16867—Continued.**

"A tree 100 to 150 feet high with diameter 4 to 5 feet; native of the tropical coast regions of New South Wales and Queensland. Valuable timber tree, especially for posts and underground situations; also for piles, as the resinous matter contained in the wood makes it resistant to damp, the attacks of white ants, and the Tereido. Entirely unprotected piles exposed to the waves for twelve years were found absolutely free from decay and the attacks of the Tereido. The wood is also difficult and slow to burn, a useful property in building lumber. An oleo-resin, in degree and character something between Venice turpentine and Canada balsam, contained in the wood is best collected by felling the tree, when it exudes between the bark and sapwood in small drops, which may be scraped off and the resin collected in a pure state." (*J. H. Maiden.*)

**16868. CEROPEGIA FUSCA.**

From Grand Canary, Canary Islands. Presented by Mr. Alaricus Delmard.  
Received December 21, 1905.

**16869. CYNARA SCOLYMUS.****Artichoke.**

From Paris, France. Received through Vilmorin-Andrieux & Co., December 29, 1905.

Seed of the *Globe* or *Paris* artichoke.

**16870. DIOSPYROS sp.****Sapote negro.**

From Uruapan, Michoacan, Mexico. Presented by Mr. C. G. Pringle. Received December 22, 1905.

**16871. PERSEA GRATISSIMA.****Avocado.**

From Miami, Fla. Presented by Mr. S. B. Bliss. Received December 18, 1905.  
*Trapp.*

**16872. CITRUS TRIFOLIATA × AURANTIUM.****Citrange.**

From the Plant Breeding Laboratory. Received December 22, 1905.

Trees of the *Morton* citrange, a hybrid between the trifoliate and the sweet orange, developed by Dr. H. J. Webber. (P. B. L. No. 771.)

**16873 to 16899.**

From Brunswick, Germany. Presented by the Ducal Botanic Gardens.  
Received December 21, 1905.

A collection of seeds, mostly grass and leguminous forage plants, as follows:

16873. MEDICAGO APICULATA.	16887. SCORPIURUS MURICATA.
16874. MEDICAGO ECHINUS.	16888. SCORPIURUS VERMICULATA.
16875. MEDICAGO MUREX.	16889. SCORPIURUS SUBVILLOSA.
16876. MEDICAGO ORBICULARIS.	16890. ERODIUM GRUINUM.
16877. MEDICAGO SCUTELLATA.	16891. ERODIUM MALACHOIDES.
16878. MEDICAGO TEREPELLUM.	16892. AVENA BREVIS.
16879. MEDICAGO TRIBULOIDES.	16893. AVENA SATIVA DIFFUSA.
16880. ONOBRYCHIS CHRISTA-GALLI.	16894. AVENA SATIVA DIFFUSA.
16881. ONOBRYCHIS CAPUT-GALLI.	16895. AGROPYRON PUNGENS.
16882. LATHYRUS OCHRUS.	16896. BROMUS BRACHYSTACHYS.
16883. PISUM ELATIUS.	16897. BROMUS STERILIS.
16884. PISUM ARVENSE.	16898. HORDEUM AEGICERAS.
16885. PISUM SATIVUM.	16899. HORDEUM ZEOCRITON.
16886. SCORPIURUS SULCATA.	

**16900. CEPHALARIA TATARICA.**

From Stockholm, Sweden. Presented by the Albano Botanic Gardens.  
Received December 21, 1905.

**16901 to 16908.**

From Saharanpur, India. Presented by Prof. H. M. Leake, economic botanist,  
Government Botanic Gardens. Received December 21, 1905.

Grass seeds, as follows:

16901. SYNTERISMA SANGUINALIS.	Finger grass.
16902. PANICUM TRYPPERON.	Guinea grass.
16903. PASPALUM DILATATUM.	Large water grass.
16904. CHAETOCHELOA GLAUCA.	Yellow foxtail.
16905. EUCHLAENA MEXICANA.	Teosinte.
16906. ELEUSINE AEGYPTIACA.	
16907. ANDROPOGON PERTUSUS.	
16908. ANDROPOGON HALEPENSIS.	Johnson grass.

**16909 to 16927.**

From near Peking, China. Received through Mr. Frank N. Meyer, December 26, 1905.

Cuttings of various fruit trees, grapevines, and ornamentals, as follows:

16909. ULMUS sp.	Elm.
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From Nankou. "(No. 31.) A broad-leaved elm suitable for small gardens and parks." (Meyer.)

16910. DIOSPYROS KAKI.	Persimmon.
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From Ming Tombs Valley. "(No. 97.) A small, seedless persimmon, with bright, orange-red fruits attaining 2 inches in diameter; later in ripening than the large ones (S. P. I. No. 16912) and not so good. The trees, however, grow to a larger size, and with their leaves dropped off and loaded with orange-colored fruits are very ornamental. Before falling the leaves also assume beautiful colors." (Meyer.)

16911. PYRUS SINENSIS.	Pear.
------------------------	-------

From Tcha-ching. "(No. 120.) A fine, white pear with melting flesh; is one of China's finest pears. Comes in late, but, being a poor keeper, disappears very early from the markets." (Meyer.) (Same as S. P. I. No. 16916.)

16912. DIOSPYROS KAKI.	Persimmon.
------------------------	------------

From Ming Tombs Valley. "(No. 104.) A most valuable fruit. The bright, orange-colored fruits attain a diameter of 4½ inches and are perfectly seedless. Bears shipping extremely well if picked when not quite ripe. Can be kept frozen hard if picked too ripe, and if care is taken can be shipped long distances. Finally, their taste is delicious and they would be highly esteemed in America as a table fruit." (Meyer.) (See also S. P. I. No. 16921.)

16913. DIOSPYROS KAKI.	Persimmon.
------------------------	------------

From Ming Tombs. "(No. 33.) A larger variety of seedless persimmon than is generally seen, but the fact that they grew on a young tree may account for this. It ripens, however, a fortnight later than those sent in under Nos. 16912 and 16921; otherwise the same description applies to it." (Meyer.)

16914. CATALPA BUNGEI.	Catalpa.
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From Peking. "(No. 13.) The real *Catalpa bungei*. A fine tree, said to be covered in spring with pink-white flowers; a favorite tree in old temple yards. This one comes from the Yellow Temple, a short distance north of Peking." (Meyer.)



**16909 to 16927—Continued.****16915. POPULUS sp.****Poplar.**

From Hwai-jou. "(No. 15.) This poplar seems to be a favorite tree for temple yards; it grows to a very large size, has a straight trunk with branches trimmed high from the ground and with large, dark green leaves. It will be much appreciated as an avenue or park tree." (*Meyer.*)

**16916. PYRUS SINENSIS.****Pear.**

From Tcha-ching. (No. 109.) For description see No. 16911.

**16917. PRUNUS ARMENIACA.****Apricot.**

From Shan-hai-kwan. "(Nos. 28 and 29.) A wild apricot with small fruits; apparently grows wild in a few cañons." (*Meyer.*)

**16918. PRUNUS sp.****Cherry.**

From Tang-shan. "(No. 93.) Apparently a cherry which grows in bush-like form, much resembling a red currant bush. According to the Chinese, the fruits are small but sweet, ripening in early June." (*Meyer.*)

**16919. AMYGDALUS PERSICA.****Peach.**

From Shan-hai-kwan. "(No. 32.) A wild peach found near an old monastery, but occurring in many different places—probably escaped from cultivation." (*Meyer.*)

**16920. MORUS ALBA.****Mulberry.**

From Ming Tombs. "(No. 92.) A form with very deeply cut leaves, which appear to be decidedly different from the common type." (*Meyer.*)

**16921. DIOSPYROS KAKI.****Persimmon.**

From Ming Tombs Valley. "(Nos. 104 and 105.) These trees are grafted upon wild stock and are planted 20 to 30 feet apart. Being slow growers, peaches are planted between the young trees and afterwards taken out when the persimmons need the space. They seem to love a somewhat sheltered position in the foothills of the mountains in a soil made of decomposed rock." (*Meyer.*)

**16922. FRAXINUS sp.****Ash.**

From Shan-hai-kwan. "(No. 11.) A decidedly ornamental shade tree; grows in dry situations." (*Meyer.*)

**16923. MORUS ALBA.****Mulberry.**

From Ming Tombs. "(No. 91.) Another form with deeply lacinated leaves." (*Meyer.*)

**16924. PYRUS SINENSIS.****Pear.**

From Tcha-ching. "(No. 119.) An attractive, medium-sized white pear with a long stem and nonmelting flesh; much relished by the Chinese." (*Meyer.*)

**16925. POPULUS sp.****Poplar.**

From Kaulitang. "(No. 38.) This poplar thrives in sandy soil and is planted largely on sandy wastes where no other tree would flourish. The Chinese use the wood in building houses, coffins, etc. A rather ornamental tree with silvery bark." (*Meyer.*)

**16926. POPULUS sp.****Poplar.**

From Chang-li. "(No. 30.) A very large poplar with a straight, smooth trunk; well fitted for park or avenue planting." (*Meyer.*)

**16927. VITIS sp.****Grape.**

From Hsuen-hwa-fu. "(Nos. 102, 106, and 107.) A fine white grape, berries very long and in heavy bunches; commands high prices and is really a fine table grape; can be kept in paper-lined baskets in a cool place until Chinese New Year (early February)." (*Meyer.*)



**16928. VICIA sp.****Vetch.**

From Thomas, Oreg. Presented by Mr. S. W. Gaines. Received December, 1905.

**16929 and 16930. QUERCUS spp.****Truffle oaks.**

From Paris, France. Received through Vilmorin-Andrieux &amp; Co., December 30, 1905.

**16929. QUERCUS ILEX.****Holly oak.****16930. QUERCUS PUBESCENS.**

Trees introduced for truffle culture.

**16931 to 16939.**

From St. Louis, Mo. Received through the Missouri Botanical Gardens, January 2, 1906.

A collection of roots, as follows:

**16931. MARANTA KEGELJANI.****16936. CALATHEA OPPENHEIMIANA.****16932. CALATHEA PRINCEPS.****16937. CALATHEA VITTATA.****16933. CALATHEA CROTALIFERA.****16938. COLOCASIA NEO-GUINEENSIS.****16934. CALATHEA sp.****16939. MARANTA LEUCONEURA KER-****16935. CALATHEA ORNATA SANDER-**  
**IANA.****CHOVIANA.****16940 to 16944.**

From Chico, Cal. Grown at the Plant Introduction Garden in 1905. Received December 22, 1905.

Seeds, as follows:

**16940. ARACHIS HYPOGAEA.****Peanut.**

Grown from No. 4253.

**16941. ARACHIS HYPOGAEA.****Peanut.**

Grown from No. 9406.

**16942. VOANDZEIA SUBTERRANEA.****Woandzu.**

Grown from No. 10450.

**16943. ARACHIS HYPOGAEA.****Peanut.**

Grown from No. 10622.

**16944. ARACHIS HYPOGAEA.****Peanut.**

Grown from No. 11140.

**16945 to 16948.**

From Victoria, Kamerun, Africa. Received through Mr. H. Nehrling, Gotha, Fla., January 3, 1906.

**16945. AMOMUM MELEGUETA.****Paradise seed.**

"Native of tropical western Africa. This plant belongs to the ginger family. From a long, scaly rootstock there are produced leafy branches and short, leafless, flower-bearing branches bearing a single white-purple flower. The fruit is red, large, fleshy, and pear-shaped, containing a large number of brown seeds called paradise seed or Guinea grains. Used only in veterinary medicine and in adulterating liquors and pepper." (*Wheeler*.)

**16946. XANTHOSOMA sp.****Yautia.**"Xanthosoma violaceum; cultivated." (*Nehrling*.)

**16945 to 16948—Continued.**

16947. *XANTHOSOMA* sp. Yautia.  
 "With light green petioles; cultivated." (*Nehrling.*)  
 16948. *XANTHOSOMA* sp. Yautia.  
 "*Colocasia antiquorum*; cultivated." (*Nehrling.*)

**16949 to 16979.**

From Paris, France. Received through Vilmorin-Andrieux & Co., December 29, 1905.

A collection of seeds, as follows:

- |   |                        |
|---|------------------------|
| 16949. <i>ARRHENATHERUM ELATIUS.</i>    | Tall oat-grass.        |
| 16950. <i>TRisetum PRATENSE.</i>        |                        |
| 16951. <i>AVENA PUBESCENS.</i>          | Downy oat-grass.       |
| 16952. <i>ANTHRISCUS SYLVESTRIS.</i>    |                        |
| 16953. <i>BRACHYPODIUM PINNATUM.</i>    |                        |
| 16954. <i>BRACHYPODIUM SYLVATICUM.</i>  |                        |
| 16955. <i>BROMUS INERIS.</i>            | Smooth brome-grass.    |
| 16956. <i>CORONILLA VARIA.</i>          | Crown vetch.           |
| 16957. <i>CYTISUS PROLIFERUS ALBUS.</i> | Broom.                 |
| 16958. <i>DACTYLIS GLOMERATA.</i>       | Orchard grass.         |
| 16959. <i>FESTUCA DUMETORUM.</i>        |                        |
| 16960. <i>FESTUCA ELATIOR.</i>          | Tall fescue.           |
| 16961. <i>FESTUCA HETEROPHYLLA.</i>     | Various-leaved fescue. |
| 16962. <i>FESTUCA OVINA.</i>            | Sheep's-fescue.        |
| 16963. <i>FESTUCA PRATENSIS.</i>        | Meadow fescue.         |
| 16964. <i>FESTUCA RUBRA.</i>            | Red fescue.            |
| 16965. <i>FESTUCA TENUIFOLIA.</i>       | Slender-leaved fescue. |
| 16966. <i>HOLCUS MOLLIS.</i>            | Creeping soft-grass.   |
| 16967. <i>MELICA CILIATA.</i>           |                        |
| 16968. <i>MELICA COERULEA.</i>          |                        |
| 16969. <i>MELILOTUS ALBA.</i>           | White melilot.         |
| 16970. <i>PASPALUM STOLONIFERUM.</i>    |                        |
| 16971. <i>PHALARIS ARUNDINACEA.</i>     | Reed canary grass.     |
| 16972. <i>PHLEUM PRATENSE.</i>          | Timothy.               |
| 16973. <i>POA COMPRESSA.</i>            | Canadian bluegrass.    |
| 16974. <i>POA FERTILIS.</i>             |                        |
| 16975. <i>POA SUDETICA.</i>             |                        |
| 16976. <i>STIPA TENACISSIMA.</i>        | Esparto grass.         |
| 16977. <i>TRIFOLIUM INCARNATUM.</i>     | Crimson clover.        |
| 16978. <i>TRIFOLIUM INCARNATUM.</i>     | Crimson clover.        |
| Late.                                   |                        |
| 16979. <i>TRIFOLIUM INCARNATUM.</i>     | Crimson clover,        |
| Extra late; white flowering.            |                        |

**16980 to 16984. ORYZA SATIVA.****Rice.**

From Sivaganga, Madura district, South India. Received through Mr. A. P. Minor, January 4, 1906.

**16980.**

*Jeeagassamba.* "(No. 1.) An elegant, very small-sized rice of exceptional whiteness when properly cleaned. It requires an old, well-cultivated soil and will then yield, say, 3,000 pounds per acre or more according to manure applied. The straw is finer and less tough than that of the commoner kinds of paddy and hence is especially valuable as fodder. In good soil it is a  $4\frac{1}{2}$  to 5 months' crop." (*Minor.*)

**16981.**

*Varikarudan.* (No. 2.)

**16982.**

*Milaga.* "(No. 3.) Nos. 2 and 3 give fine white rice, preferred to all others by the higher classes in this part of India. The flavor is supposed to be exceptionally good. Both are hardy and require no exceptional treatment. In an average soil they yield 3,000 pounds per acre and in a well-manured soil up to 5,000 pounds per acre. The straw is good fodder for cattle. The duration of crop is ordinarily  $4\frac{1}{2}$  to  $5\frac{1}{2}$  months." (*Minor.*)

**16983.**

*Vellakattai, or Sirumanian.* (No. 4.)

**16984.**

*Eerungal, or Nargan.* "(No. 5.) Nos. 4 and 5 yield a large white rice which is considered particularly nourishing by the lower classes; very hardy, vigorous grower, even in a comparatively poor soil. An ordinary outturn, with little or no manure, is 2,500 pounds per acre, which may be nearly doubled by manuring. The straw is coarser than that obtained from Nos. 2 and 3. The crop matures in  $3\frac{1}{2}$  to 4 months, according to soil and other conditions." (*Minor.*)

**16985 to 17034.**

From Erfurt, Germany. Received through Haage & Schmidt, December 28, 1905.  
Seeds of forage crops, as follows:

16985. ASTRAGALUS FALCATUS.	17001. MELILOTUS OFFICINALIS.
16986. AVENA FLAVESCENS.	17002. MELILOTUS PARVIFLORA.
16987. BROMUS PRATENSIS.	17003. MELILOTUS SEGETALIS.
16988. DACTYLIS GLOMERATA.	17004. MELILOTUS SULCATA.
16989. FESTUCA ARUNDINACEA.	17005. PHALARIS ARUNDINACEA.
16990. FESTUCA DURIUSCULA.	17006. PISUM JOMARDI.
16991. FESTUCA ELATIOR.	17007. PLANTAGO PSYLLIUM.
16992. FESTUCA HETEROPHYLLA.	17008. SPARTIUM SCOPARIUM.
16993. FESTUCA OVINA.	17009. VICIA AGRIGENTINA.
16994. FESTUCA PRATENSIS.	17010. VICIA AMBIGUA.
16995. FESTUCA RUBRA.	17011. VICIA BIENNIS.
16996. FESTUCA TENUIFOLIA.	17012. VICIA CALCARATA.
16997. LUZULA ALBIDA.	17013. VICIA CASSUBICA.
16998. LATHYRUS HIRSUTUS.	17014. VICIA CORDATA.
16999. MELILOTUS COERULEA.	17015. VICIA CORNIGERA.
17000. MELILOTUS ALTISSIMA.	17016. VICIA CUSPIDATA.

**16985 to 17034—Continued.**

17017. VICIA DISPERMA.	17026. VICIA ONOBRYCHIOIDES.
17018. VICIA FERRUGINEA.	17027. VICIA PANNONICA.
17019. VICIA GERARDI.	17028. VICIA PEREGRINA.
17020. VICIA GLOBOSA.	17029. VICIA PICTA.
17021. VICIA GRANDIFLORA.	17030. VICIA PSEUDO-CRACCA.
17022. VICIA HYBRIDA.	17031. VICIA SYLVATICA.
17023. VICIA LUTEA.	17032. VICIA SPURIA.
17024. VICIA MACROCARPA.	17033. VICIA STRIATA.
17025. VICIA MULTIFLORA.	17034. VICIA TRICOLOR.

**17035 to 17050.**

From Sydney, New South Wales. Presented by Prof. J. H. Maiden, director of Botanic Gardens. Received January 2, 1906.

17035. ANDROPOGON BOMBYCINUS.	17043. PANICUM PROLUTUM.
17036. ASTREBLA PECTINATA.	17044. PASPALUM BREVIFOLIUM.
17037. ASTREBLA ELYMOIDES.	17045. PENNISETUM COMPRESUM.
17038. CENCHRUS AUSTRALIS.	17046. POLLINIA FULVA.
17039. CHLORIS TRUNCATA.	17047. CHAETOCLOA AUREA.
17040. CHLORIS VENTRICOSA.	17048. SPOROBOLUS LINDLEYI.
17041. CHRYSOPOGON GRYPHUS.	17049. STIPA ELEGANTISSIMA.
17042. PANICUM DECOMPOSITUM.	17050. STIPA TUCKERI.

**17051 and 17052. BOUTELOUA spp.**

From Silver City, N. Mex. Received through Mr. James K. Metcalfe, January 5, 1906.

17051. BOUTELOUA CURTIPENDULA.	Tall grama grass.
17052. BOUTELOUA OLIGOSTACHYA.	Blue grama grass.

**17053. SOLANUM COMMERSONI.****Aquatic potato.**

From Burlington, Vt. Received through Prof. William Stuart, of the Agricultural Experiment Station, January 6, 1906.

Tubers grown from stock obtained through Dr. Edouard Heckel, of Marseille, France. "Heckel is not at all of the opinion that *Solanum commersonii* should replace our common potato; but if it is adapted to swampy locations it would become very valuable to us, and possibly nonbitter hybrids might be produced for poorly drained soils by cross fertilization." (*L. Wittmack, Gartenflora, 54: 452, 1905.*) (See note to No. 10324.)

**17054. SOLANUM COMMERSONI.****Aquatic potato.**

From Santa Rosa, Cal. Received through Mr. Luther Burbank, November 28, 1905, and February 10, 1906.

Tubers grown from No. 10324. "Has rather small vines, produces an enormous amount of flowers all summer and a reasonable amount of seed balls, which, however, unless pollenized from some other variety never produce a seed. Owing to its wandering disposition, not extra quality, and not being very productive it will never become popular. I judge from what I have read in the French papers that the bluish variety is better." (*Burbank.*)

**17055 to 17058.**

From Buitenzorg, Java. Presented by Doctor Treub, director of the Department of Agriculture. Received January 5, 1906.

- |               |   |                 |
|---------------|---|-----------------|
| <b>17055.</b> | ARACHIS HYPOGAEA.<br>"Katjang holle."         | <b>Peanut.</b>  |
| <b>17056.</b> | ARACHIS HYPOGAEA.<br>"Katjang banah waspada." | <b>Peanut.</b>  |
| <b>17057.</b> | ARACHIS HYPOGAEA.<br>"Katjang amerika."       | <b>Peanut.</b>  |
| <b>17058.</b> | VOANDZEIA SUBTERRANEA.<br>"Katjang bogor."    | <b>Woandzu.</b> |

**17059. FESTUCA PRATENSIS.****Meadow fescue.**

From Marysville, Kans. Received through Mr. Frank W. Oakley, January 5, 1906.

**17060 and 17061.**

From Honolulu, Hawaii. Received through Dr. J. N. Rose, of the United States National Museum, Washington, D. C., December 29, 1905.

Seeds, as follows:

- |               |                                   |                    |
|---------------|-----------------------------------|--------------------|
| <b>17060.</b> | OREODOXA REGIA.<br>(No. 05/876.)  | <b>Royal palm.</b> |
| <b>17061.</b> | ARISTOLOCHIA sp.<br>(No. 05/875.) |                    |

**17062. SOLANUM MELONGENA.****Eggplant.**

From Trebizond, Turkey. Presented by Mr. Vital Ojalvo, vice-consul, through Mr. Frank Benton. Received January 6, 1906.

Seed of a violet-colored variety.

**17063 to 17066.**

From Moscow, Russia. Presented by Prof. William R. Williams, of the Moscow Agricultural Institute. Received January 8, 1906.

- |               |                        |               |                    |
|---------------|------------------------|---------------|--------------------|
| <b>17063.</b> | ALOPECURUS RUTHENICUS. | <b>17065.</b> | BROMUS RACEMOSUS.  |
| <b>17064.</b> | BROMUS MOLLIS.         | <b>17066.</b> | BROMUS SYLVATICUS. |

**17067 and 17068.**

From Paris, France. Received through Vilmorin-Andrieux & Co., January 9, 1906.

- |               |                        |                           |
|---------------|------------------------|---------------------------|
| <b>17067.</b> | MELILOTUS COERULEA.    | <b>Blue sweet clover.</b> |
| <b>17068.</b> | CORONILLA SCORPIOIDES. |                           |

**17069 and 17070.**

From Dreshertown, Pa. Received through Thomas Meehan & Sons, January 9, 1906.

Stocks upon which to graft imported cuttings, as follows:

- |               |                 |              |
|---------------|-----------------|--------------|
| <b>17069.</b> | MALUS MALUS.    | <b>Apple</b> |
| <b>17070.</b> | PYRUS COMMUNIS. | <b>Pear.</b> |

**17071. PANICUM LAEVIFOLIUM.**

From Pretoria, Transvaal, South Africa. Presented by Prof. J. Burt Davy, agrostologist and botanist of the Department of Agriculture. Received January 9, 1906.

**17072 to 17075. ELEUSINE CORACANA.**

From Bombay Presidency, India. Received through Mr. F. Fletcher, Deputy Director of Agriculture, January 9, 1906.

**17072.** "*Mukti Nagli.*" (Close heads.) From Lonawla.

**17073.** "*Zipri Nagli.*" (Open heads.)

**17074.** "*Nagli.*" (Red.)

**17075.** "*Nagli.*" (White.)

**17076 to 17092.**

From Paris, France. Received through Vilmorin-Andrieux & Co., January 9, 1906.

Seeds of forage crops, as follows:

<b>17076.</b> ANTHYLLIS VULNERARIA.	<b>Kidney vetch.</b>
<b>17077.</b> ASTRAGALUS FALCATUS.	<b>Milk vetch.</b>
<b>17078.</b> BRASSICA OLERACEA.	<b>Improved branching borecole.</b>
<b>17079.</b> BRASSICA OLERACEA.	<b>Thousand-headed kale.</b>
<b>17080.</b> CYTISUS SCOPARIUS.	<b>Common broom.</b>
<b>17081.</b> FESTUCA DUMETORUM.	
<b>17082.</b> FESTUCA HETEROPHYLLA.	<b>Various-leaved fescue.</b>
<b>17083.</b> FESTUCA OVINA.	<b>Sheep's-fescue.</b>
<b>17084.</b> FESTUCA RUBRA.	<b>Red fescue.</b>
<b>17085.</b> FESTUCA TENUIFOLIA.	<b>Slender-leaved fescue.</b>
<b>17086.</b> LOTUS VILLOSUS.	<b>Greater bird's-foot trefoil.</b>
<b>17087.</b> MEDICAGO MEDIA.	<b>Sand lucern.</b>
<b>17088.</b> POA FERTILIS.	
<b>17089.</b> POA NEMORALIS.	<b>Wood meadow grass.</b>
<b>17090.</b> POA SEMPERVIRENS.	
<b>17091.</b> POA TRIVIALIS.	<b>Rough-stalked meadow grass.</b>
<b>17092.</b> ULEX EUROPAEUS.	<b>Furze, gorse, or whin.</b>

**17093. CHRYSOPHYLLUM CAINITO.****Star-apple.**

From Washington, D. C. Plants grown in the Department greenhouse from seed obtained in 1904 by Mr. G. N. Collins in Jamaica, British West Indies; numbered January 10, 1906.

Fruit from which seeds were obtained was large and light colored.

**17094 and 17095. ERAGROSTIS ABYSSINICA.****Teff.**

From Abyssinia. Received through His Excellency S. A. Ras Makomen, January 12, 1906.

**17094.** Pearl white seed.

**17095.** Brown seed mixed with white.

"Teff is the staple food of the Abyssinians. Considering the general physique of the nation and that teff is practically the sole means of nourishment, as the poorer classes seldom taste meat, the cereal is undoubtedly rich in nitrog-



**17094 and 17095—Continued.**

enous matter. It possesses, too, a sufficient quantity of starchy matter to constitute a fairly hygienic diet. Teff is utilized as follows: Ground into flour; made into a semiliquid or thin paste consistency by adding water, and placed in earthen jars. The leaves of the 'Geaho' (gesho) plant, which yield a ferment, are added. When fermentation is complete the sirupy mixture is slowly poured on the surface of well-heated, circular, flat baking pans. After a certain amount of manipulation and turning over, a semiaerated, flat, round cake is the result. This keeps for months without deterioration, is broken into fragments and dried in the sun. The dried bread is used as their chief supply when at war or on expeditions. Teff undoubtedly possesses highly nutritious qualities and is decidedly more digestible than wheat. It could therefore be exploited as an invalid food. Teff is not known to possess distinct drought-resisting properties." *(Extract from letter from the British consul at Adis Ababa, Abyssinia.)*

**17096. PHASEOLUS RADIATUS.****Mung bean.**

From Augusta, Ga. Received through the N. L. Willet Seed Company, January 12, 1906.

*Newman.*

**17097 to 17100.**

From Channing, Tex. Received through Mr. A. H. Leidigh, January 12, 1906.

**17097. TRITICUM DURUM.****Macaroni wheat.**

*Galgalos.* Grown from No. 9872.

**17098. TRITICUM DICOCUM.****Black emmer.**

Grown from No. 11650.

**17099. PANICUM MILIACEUM.****Broom-corn millet.**

*Black Voronezh.* Grown from No. 9425.

**17100. HORDEUM VULGARE.****Barley.**

*Tennessee Winter.* Grown from No. 11193.

**17101 to 17103.**

From Silphur, Calcutta, India. Received through Mr. A. Gage, acting superintendent, Royal Botanic Gardens, January 13, 1906.

A collection of tubers, as follows:

**17101. AMORPHOPHALLUS CAMPANULATUS.****Stanley's washtub.**

The members of this genus of aroids are natives of India and other parts of tropical Asia, where they are cultivated for the starch which is so abundant in the rootstock. *Amorphophallus campanulatus* has a tuber weighing 8 to 10 pounds, shaped like a flat cheese; spathe nearly 2 feet broad and 15 inches high, with a horizontal, spreading, fluted border, red-purple on the border, then grayish white spotted and purple in the center. Doctor White says of it that when in flower the fetor it exhales is most overpowering, and so perfectly resembles that of carrion as to induce flies to cover the club of the spadix with their eggs.

**17102. COLOCASIA ANTIQUORUM ESCULENTA (?)**

(Labeled "*Alocasia antiquorum*." )

**17103. ALOCASIA INDICA.****Alocasia.**

"These roots are cultivated to some extent throughout India, but do not occupy so important a place in the domestic economy there as do the taros in Polynesia or the yautias in tropical America." (*Barrett.*)

**17104. PHALARIS CANARIENSIS.****Canary grass.**

From Malta. Received through Mr. J. Borg, of the St. Antonio Gardens, January 15, 1905.

Malta canary seed. "Requires the same culture as the late varieties of wheat. Very productive and remunerative, although not much grown in Malta. The grain is slightly larger in size than the best Sicilian canary seed; the plant is also stouter." (Borg.)

**17105. CINNAMOMUM CAMPHORA.****Camphor.**

From Paris, France. Received through Vilmorin-Andrieux & Co., January 15, 1906.

This plant is the source of camphor, the gum being obtained from the extracted juice. The tree is difficult to transplant and is best propagated by seeds, sown as soon as ripe in a shaded bed, the seedlings being transplanted when very small into pots and kept thus until ready to plant out permanently. The soil best suited to camphor is a sandy loam.

**17106 to 17130. AMYGDALUS COMMUNIS.****Almond.**

From Girgenti, Italy. Received through Hon. Francis Ciotta, United States consular agent, January 15, 1906.

Almond cuttings, as follows:

**17106.**

*Cornutella.* This is a plant requiring special care, but is highly valued for its sweet and agreeable flavor. The tree will attain a vigorous and strong growth; can be cultivated in all climates.

**17107.**

*Cavaliere.* In this the vegetation is especially vigorous, resists frost, yields well, and the fruit is extremely tender, being much sought after as a table fruit.

**17108.**

*Caccia.* In this the vegetation is extremely strong, resists the rigors of winter, produces richly, and is incomparable for roasting and for making the finest torroni, the tower-like almond cakes made of almonds and honey.

**17109.**

*Bianca.* The tree is of medium development, wood not very solid, yields well, fruit extremely sweet and highly valued for table use.

**17110.**

*Selvaggia.* This tree has great resistance, grows in a very luxuriant manner and regular form; bears a tender fruit used by preference for the ordinary torroni, almond cakes of the common quality.

**17111.**

*Carina.* This tree is of medium development and is very resistant to frost and inclement weather. It produces abundant small, tender fruit which is excellent for pastry and for the almond paste.

**17112.**

*Regaliana.* This tree is of medium size and of ordinary resistance; produces abundantly a fruit valuable for the table, exquisitely sweet and sought for in all the markets for its excellent qualities.

**17113.**

*Inglese.* This takes its name from the extensive use to which it is put in the manufacture of special pastes in England. It is very delicate and tender, superior for the table and excellent also for making sweetmeats.

**17106 to 17130—Continued.**

17114.

*Tramontana.* Its resistance to frost, which is strong in this almond tree, enables it to grow vigorously in the tramontane regions without injury from exposure to those northern winds. The fruit is sweet and sought after for confectionery.

17115. *Washington.*17123. *Sanguisuga.*17116. *Sicilia.*17124. *Fra Elia.*17117. *Racalmuto.*17125. *Milocca.*17118. *Signora.*17126. *Kruger.*17119. *Mantia.*17127. *Giglio.*17120. *Gioia.*17128. *Nocciola.*17121. *Sanfilippo.*17129. *Rocca Rossa.*17122. *Striata.*17130. *Giapponese.***17131. ELYMUS VIRGINICUS SUBMUTICUS.****Wild rye-grass.**

From Union, Oreg. Received through Mr. George Gammie, of the Agricultural Experiment Station, January 13, 1906.

A native of the Rocky Mountains. A coarse, perennial grass, growing on alluvial river banks or in rich low grounds. This grass frequently forms a considerable portion of native meadow lands and makes a coarse hay. It starts growth early in the spring and thus affords a good pasturage.

**17132. SOLANUM COMMERSONI.****Aquatic potato.**

From New York, N. Y. Received through J. M. Thorburn & Co., January 15, 1906.

Violet tubers procured direct from Mr. J. Labergerie, and will be compared with the form imported direct from Heckel and the forms received from Luther Burbank. (For description see "Le Solanum Commersonii et ses Variations Pomme de Terre de L'Uruguay (Variete Violette)," by J. Labergerie.)

**17133. SECHIAM EDULE.****Chayote.**

From South Island, S. C. Received through Gen. E. P. Alexander, January 12, 1906.

**17134. PHASEOLUS RADIATUS.****Mung bean.**

From Chillicothe, Tex. Received through Mr. A. B. Conner, December 23, 1905.

*Udid.* Grown from No. 8541.

**17135 to 17137. ORYZA SATIVA.****Rice.**

From Yokohama, Japan. Received through the Yokohama Nursery Company, January 9, 1906.

Japanese rice grown in Shizuoka Ken district, as follows:

17135. *Tamanishiki.*17136. *Araki.*17137. *Mochi.* A glutinous variety mostly used for cakes, candy, etc.

**17138 to 17140.**

From Manila, P. I. Received through Mr. W. S. Lyon, horticulturist, Bureau of Agriculture, January 16, 1906.

**17138. LILIU PHILIPPINENSE.****Benguet lily.**

"Its grassy foliage is striking and graceful. It forces here admirably, and I think should be a good subject for a forcing bulb in cultivation." (*Lyon.*)

**17139. STERCULIA FOETIDA.**

"*Bobug.*" A tall, handsome, smooth tree with whirled horizontal branches, large compound leaves, and large, dull red flowers appearing with the leaves in spreading panicles. The fruit consists of five large follicles, containing 10 to 15 smooth, black seeds the size of filberts, which are roasted and eaten like chestnuts. Native throughout the tropics of the Old World.

**17140. ACTINORHYZIS CALAPPARIA.****Palm.**

"One of the most attractive palms of the *Areceae* group that I have ever seen. I think it would prove a useful subject for house decorations, as our native gardeners grow it to a large size (8 to 10 feet) in flat, shallow, 12-inch pans." (*Lyon.*)

**17141. GARCINIA MORELLA.****Gamboge.**

From Kingston, Jamaica, British West Indies. Received through Dr. W. Fawcett, director of Hope Gardens, January 18, 1906.

Seeds obtained for the purpose of propagating seedling stocks upon which to graft the mangosteen.

**17142 and 17143. PASSIFLORA spp.**

From Washington, D. C. Plants grown on the grounds of the Department of Agriculture, and numbered for convenience in recording distribution on January 18, 1906.

**17142. PASSIFLORA RACEMOSA.****Passion flower.****17143. PASSIFLORA QUADRANGULARIS VARIEGATA.****Granadilla.****17144. ORYZA SATIVA.****Rice.**

From North Galveston, Tex. Received through Dr. S. A. Knapp, January 15, 1906.

*Egyptian.* "The *Egyptian* rice is locally known in Louisiana as *Bull* rice and has been grown there for a great many years. It has a large berry of the Japanese type—that is, thick and short kernel—somewhat larger than the *Kiushi* rice, dark colored and much softer when it first ripens, so that it answers excellently for the purpose of stock food. It also has more protein than the ordinary rice. The characteristics of its growth are that it requires very little water, has a strong stalk, abundant leaf, is a heavy producer, and will generally make a crop even though the other rices fail. For these reasons it is grown in Louisiana as a stock food." (*Knapp.*)

**17145. DIOSPYROS VIRGINIANA.****Persimmon.**

From Augusta, Ga. Received through the P. J. Berckmans Company, January 19, 1906.

Seedling stocks for use in grafting imported scions.

**17146. GARCINIA MANGOSTANA.****Mangosteen.**

From Buitenzorg, Java. Received through Dr. M. Treub, director of the Botanical Gardens, January 19, 1906.

**17147. HORDEUM DISTICHUM NUTANS.****Barley.**

From Fort Atkinson, Wis. Received through Mr. W. D. Hoard, January 17, 1906.

*Hanna.*

**17148. AVENA SATIVA.****Oat.**

From Brandon, Wis. Received through Mr. David Jones, January 20, 1906.

*Kherson.*

**17149. XANTHOSOMA sp.****Yautia.**

From Linares, Nueva Leon, Mexico. Presented by Dr. F. Franceschi, Santa Barbara, Cal. Received January 22, 1906.

*Linares.*

**17150. REHMANNIA ANGULATA.**

From Narberth, Pa. Received through Mr. William Tricker, January 19, 1906.

Introduced by James Veitch & Son, London, England. A native of central China; has proved hardy on the Cotswold Hills, England, 750 feet above sea level, without protection; and with moderate protection withstood the severe winter of 1904-5 in Massachusetts. Awarded certificate of merit at Royal Horticultural Society in 1903. Seedlings raised in the spring of 1905, which were planted out under similar conditions with other herbaceous plants, made rapid progress and some commenced to flower in July and were still in flower October 19. Others probably will not flower until 1906, exhibiting more the character of biennials. The plants are vigorous, leaves radical, petiolate, of a deep green color and 12 to 15 inches long. Some plants sent up one spike from the main crown, while others sent up several spikes but weaker. Main spikes have produced lateral growths with flowers. Several spikes were 4 feet tall. Flowers like *Bignonia grandiflora* (except in color) are produced at the axils of the leaves. Size, 3 inches in diameter, color, rose-purple with a rich yellow throat spotted with purple. The individual flower resembles *Incavillea delavayi*. Plants thrive in ordinary garden soil; should have full sunshine and ample space between plants—about 2 feet. Flowers are good for cutting, remaining several days in good condition." (Tricker.)

**17151. CITRUS AURANTIUM.****Orange.**

From Siang-tan, Hunan Province, China. Received from Mr. S. A. McCalla, through Prof. H. A. Morgan, director of the Agricultural Experiment Station, Knoxville, Tenn., January 17, 1906.

Orange seeds said by Doctor Webber to be of a tangerine type.

"The oranges grown hereabouts are of both the loose-skinned and the tight-skinned varieties. None of them are especially good. The town of Li-ling, which has a latitude of 27° 42' N., is the northern limit of the tight-skinned oranges, but the loose-skinned variety grows as far north as Chang-sha, which is probably about 400 feet above sea level. Nearly every winter there are one or two big snows. I have seen two in the last five years about 9 inches deep; also, from time to time there are freezes, but the orange trees never seem to suffer." (McCalla.)

**17152 to 17162.**

From Chi-li Province, China. Received through Mr. Frank N. Meyer, December, 1905.

Cuttings of fruits and vines, as follows:

**17152. PRUNUS ARMENIACA.****Apricot.**

From Tchu-chung. "(No. 118.) This is one of the finest white apricots that grows in China, as I have been told by the natives. They describe the fruit as being very large and white skinned, with a few red spots." (Meyer.)



**17152 to 17162—Continued.****17153. PRUNUS ARMENIACA.****Apricot.**

From Tcha-ching. "(No. 113.) The kernels of this apricot are sold as almonds; they are small but taste fine. The trees grow very bushy and are grafted upon wild stock." (*Meyer.*)

**17154. PRUNUS ARMENIACA.****Apricot.**

From Tcha-ching. "(No. 112.) A large, red apricot described by the natives as being very good." (*Meyer.*)

**17155. VITIS VINIFERA.****Grape.**

From Chang-li. "(No. 114.) This is a very fine white grape belonging to the *Muscat* group. In North China it commands more than three times as much money as is paid for the purple grape." (*Meyer.*)

**17156. VITIS VINIFERA.****Grape.**

From Hsuen-hwa-fu. "(No. 101.) A splendid green-white grape, considered as the best grape here in China. The berry is very long and the bunches are rather large. The taste is fresh sweet, without being too sweet. An excellent table grape. It is apparently a kind of *Muscat* grape, not being free skinned and having the same general appearance." (*Meyer.*)

**17157. VITIS sp.****Grape.**

From Chang-li. "(No. 115.) A dark purple grape; a very heavy bearer. The taste is a trifle watery, but otherwise it is all right. Is a very late grape, the last which appears here on the markets. Free skin; produces very large bunches." (*Meyer.*)

**17158. VITIS sp.****Grape.**

From Hsuen-hwa-fu. "(No. 103.) A small purple grape from this region, where it gets intensely cold; the vines are buried over winter." (*Meyer.*)

**17159. VITIS sp.****Grape.**

From Hwai-jou. "(No. 95.) A purple grape, said to be early and of good quality." (*Meyer.*)

**17160. VITIS sp.****Grape.**

From Hwai-jou. "(No. 94.) A white grape growing near Hwai-jou. I was not able to see any fruit, but am told that it is an early, sweet grape." (*Meyer.*)

**17161. VITIS sp.****Grape.**

From Chang-li. "(No. 116.) A light purple colored grape; heavy bearer; large bunches; free skin. Tastes somewhat watery. Might do fine as a wine producer. Is well esteemed here on account of coming the last in season." (*Meyer.*)

**17162. (Undetermined.)**

From Hwai-jou. "(No. 110.) Cuttings of a vine used around here for tying grapes to the trellises. Looks like *Aristolochia*. Is not produced here, but comes from farther south. It is very tenacious material, admirably fit for the the purpose." (*Meyer.*)

**17163 to 17166.**

From Queretaro, Mexico. Received through Señor Carlos J. Urquiza, January 20, 1906.

**17163. MEDICAGO SATIVA.****Alfalfa.****17164. VICIA FABA.****Broad bean.****17165. LENS ESCULENTA.****Lentil.****17166. (Undetermined.)***Shotolillo.*



**17167 to 17181.**

From Chi-li Province, China. Received through Mr. Frank N. Meyer, January 24, 1906.

A collection of cuttings, as follows: \*

**17167. AMYGDALUS PERSICA.****Peach.**

From Tung-chow. "(No. 35.) A large, white peach, considered a fine fruit by the Chinese. Nonmelting flesh. The tree is a very thrifty grower." (Meyer.)

**17168. CELTIS sp.****Hackberry.**

From Shan-hai-kwan. "(No. 3.) An oramental shade tree, growing in dry, rocky situations; if not too heavily attacked by gall insects is decidedly ornamental." (Meyer.)

**17169. CORYLUS sp.****Hazelnut.**

From Shan-hai-kwan. "(No. 7.) A low shrub found on steep, rocky mountain sides. May do well as undershrub beneath tall trees." (Meyer.)

**17170. CRATAEGUS sp.****Hawthorn.**

From Chang-li. "(No. 10.) A small-leaved *Crataegus* growing wild in the mountains around here. It is used as stock for *Crataegus pinnatifida*." (Meyer.)

**17171. CRATAEGUS PINNATIFIDA.****Hawthorn.**

From Chang-li. "(No. 9.) A very large-fruited variety of which seeds were sent to Washington under No. 57a. A remarkable ornamental tree. Is a slow grower, but has large, glossy, dark green leaves, and is loaded in fall with scarlet fruits. In China itself there is not enough of this fruit to supply the demand for making preserves." (Meyer.)

**17172. DIOSPYROS KAKI.****Persimmon.**

From Chang-li. "(No. 4.) A medium sized, seedless persimmon. Seems to be a variety of *Diospyros kaki*. Fruit globular, 2 inches in diameter, orange color. The trees grow 30 to 40 feet high." (Meyer.)

**17173. DIOSPYROS LOTUS.****Persimmon.**

From Chang-li. "(No. 50.) A wild persimmon on which the large seedless varieties are grafted; is itself also an ornamental tree." (Meyer.)

**17174. POPULUS sp.****Poplar.**

From Shan-hai-kwan. "(No. 14.) A very white barked poplar which is extremely cheery in winter landscape on account of its shining white bark. Grows to a rather large-sized tree, 60 to 80 feet. Well fit for an avenue tree or to be planted in groups in parks." (Meyer.)

**17175. POPULUS sp.****Poplar.**

From Shan-hai-kwan. "(No. 40.) A very white barked poplar, growing close to the seashore near Shan-hai-kwan. Probably the same as No. 14 (S. P. I. No. 17174), but its locality close to the sea made it look different." (Meyer.)

**17176. PYRUS sp.****Pear.**

From Chang-li. "(No. 36.) A very small pear. The fruits do not grow larger than a small cherry. Fit perhaps as an ornamental tree." (Meyer.)

**17177. PYRUS sp.****Pear.**

From Shan-hai-kwan. "(No. 37.) A wild pear growing in a rocky ravine." (Meyer.)

**17178. PYRUS SINENSIS.****Pear.**

From Chang-li. "(No. 39.) A large yellow pear, nonmelting flesh. Can be kept for many months without spoiling. May be of use in crossing with better kinds." (Meyer.)

**17167 to 17181—Continued.****17179.** *SALIX* sp.

Willow.

From Shan-hai-kwan. "(No. 49.) A willow which is used to make strong baskets from. The bark of an older tree becomes pitch black and looks as such rather curious." (*Meyer.*)

**17180.** (Undetermined.)

From Shan-hai-kwan. "(No. 5.) A plant with long, fierce spines, which might make it suitable for a hedge plant; grows to be a good-sized tree." (*Meyer.*)

**17181.** *XANTHOXYLUM* sp.

Prickly ash.

From Shan-hai-kwan. "(No. 12.) Probably not possible to grow from cuttings. Seeds sent to Washington, D. C., under No. 125a." (*Meyer.*)

**17182 to 17234.**

From Richmond, New South Wales. Received through Mr. H. W. Potts, principal of the Hawkesbury Agricultural College, January 20, 1906.

Grass seeds, as follows:

**17182.** *ANDROPOGON* sp.

Bluestem.

**17183.** *ANDROPOGON AFFINIS.*

Coast bluestem.

**17184.** *ANDROPOGON SERICEUS.*

Hairy bluestem.

**17185.** *ASTREBLA ELYMOIDES.*

Coarse Mitchell grass.

**17186.** *ASTREBLA ELYMOIDES.*

Coarse Mitchell grass.

**17187.** *ASTREBLA PECTINATA.*

Mitchell grass.

**17188.** *ASTREBLA PECTINATA.*

Mitchell grass.

**17189.** *ASTREBLA TRITICOIDES.*

Mitchell grass.

**17190.** *ASTREBLA TRITICOIDES.*

Mitchell grass.

**17191.** *CHLORIS ACICULARIS.*

Star grass.

**17192.** *CHLORIS VENTRICOSA.*

Windmill grass.

**17193.** *CHLORIS TRUNCATA.*

Umbrella grass.

**17194.** *CHLORIS TRUNCATA.*

Umbrella grass.

**17195.** *CHRYSOPOGON GRYLLUS.***17196.** *DEYEUXIA FORSTERI.*

Bent-grass.

**17197.** *DANTHONIA CARPHOIDES.*

Oat-grass.

**17198.** *DANTHONIA CARPHOIDES.*

Oat-grass.

**17199.** *DANTHONIA NERVOSA.*

Swamp wallaby.

**17200.** *DANTHONIA NERVOSA.*

Swamp wallaby.

**17201.** *DANTHONIA PENICILLATA.*

Wallaby grass.

**17202.** *DANTHONIA PENICILLATA.*

Wallaby grass.

Broad-leaved form.

**17203.** *DANTHONIA SEMIANNULARIS.*

Wallaby grass.

**17204.** *DANTHONIA PENICILLATA* var.

A broad-leaved variety.

**17205.** *DANTHONIA PENICILLATA* var.**17206.** *DANTHONIA PENICILLATA* var.**17207.** *DANTHONIA PENICILLATA.*

## 17182 to 17234—Continued.

17208.	DANTHONIA PENICILLATA VILLOSA.	
17209.	DANTHONIA PENICILLATA.	
17210.	DANTHONIA PENICILLATA.	
17211.	DANTHONIA SEMIANNULARIS.	Wallaby grass.
17212.	DIPLACHNE FUSCA.	Brown-flowered swamp-grass.
17213.	DIPLACHNE FUSCA	Brown-flowered swamp-grass.
17214.	DIPLACHNE PEACOCKII.	
17215.	ELEUSINE AEGYPTIACA.	Crowfoot.
17216.	ERAGROSTIS sp. (Probably <i>E. leptostachya</i> .)	
17217.	ERAGROSTIS BROWNEI.	Love-grass.
17218.	ERAGROSTIS LEPTOSTACHYA.	Love-grass.
17219.	ERAGROSTIS PILOSA.	Weeping love-grass.
17220.	ERIOCHLOA POLYSTACHYA.	Early spring-grass.
17221.	NEURACHNE MITCHELLIANA.	Mulga grass.
17222.	PANICUM ARACHYRACHUS.	
17223.	PANICUM DECOMPOSITUM.	Australian millet.
17224.	PANICUM FLAVIDUM.	Vandyke grass.
17225.	PANICUM FLAVIDUM.	Vandyke grass.
17226.	PANICUM LEUCOPHAEUM.	Cotton grass.
17227.	PANICUM PROLUTUM.	
17228.	PANICUM PROLUTUM	
17229.	POA CAESPITOSA.	Tussock poa.
17230.	POLLINIA FULVA.	Sugar grass.
17231.	PAPPOPHORUM COMMUNE.	Pappus grass.
17232.	PAPPOPHORUM COMMUNE.	Pappus grass.
17233.	CHAETOCHELOA AUREA.	Yellow foxtail.
17234.	DIPLACHNE DUBIA.	Cane-grass.

## 17235. ARALIA CORDATA.

Udo.

From Yokohama, Japan. Received through the Yokohama Nursery Company, January 26, 1906.

*Kan udo.*

## 17236 to 17244.

From Buitenzorg, Java. Received through Dr. M. Treub, director of the Department of Agriculture, January 26, 1906.

## 17236. ALOCASIA MACRORHIZA.

Malay name "Senteh."

## 17237 to 17244. COLOCASIA ANTIQUORUM.

Taro.

17237. Variety *nigra*. Malay name "Kiempoel ietem."

17238. Variety *monorhiza atroviridis*. Malay name "Talus romah."

17239. Variety *monorhiza scripta*. Malay name "Talus soerat."

17240. Variety *monorhiza nigra*. Malay name "Talus lampoeng ietem."

17241. Variety *monorhiza nigra*. Malay name "Talus lahoen indoeng."

**17236 to 17244—Continued.**

**17242.** Variety *monorhiza bayabon*. Malay name "Talus pandan."

**17243.** Variety *monorhiza bayabon*. Malay name "Talus ketan."

**17244.** Variety *monorhiza bayabon*. Malay name "Talus kiara."

**17245. ERODIUM CYGNORUM.****Stork's-bill or crow's-foot.**

From Sydney, New South Wales. Presented by the director of the Botanic Gardens through Mr. Walter S. Campbell, director of Agriculture. Received January 22, 1906.

"An annual or biennial herb with procumbent or slightly erect stems extending from 1 foot to 3 feet or more in length. This plant is widely distributed throughout the Australian continent, being found in the interior of all the colonies, and in some situations it is moderately plentiful. Its free-seeding qualities have rendered it somewhat proof against extermination. During the spring and early summer months this plant affords a rich succulent herbage, which herbivora of all descriptions are remarkably fond of. Horses will often leave good herbage to browse upon it. Pastoralists speak very highly of this plant as affording good herbage while it is in a young state. But when it is ripening its seeds it is somewhat dreaded by the sheep owner on account of the sharp pointed seed lobes, which not only attach themselves firmly to the wool but the barbed points often penetrate the skin of the animal. Notwithstanding this, however, the plant has much to recommend it as a pasture herb, for it will grow well on the poorest of soils. Many of the dry sandhills of the interior would have little vegetation on them during the early summer months if it were not for this plant. Under cultivation it produces a great amount of herbage, and if cut when it shows its flowers it is not only valuable as a green feed, but it can be made into capital hay. Taking into consideration its great productiveness, we think it might be turned into ensilage with good results. *E. cygnorum* is the only species of the genus that is endemic in Australia." (*Flora Austr.*, 1:297.)

**17246 and 17247. NICOTIANA SANDERAE.**

From St. Albans, England. Received from Sander & Sons through J. M. Thorburn & Co., New York, N. Y., January 18, 1906.

**17246.** *NICOTIANA SANDERAE*.

**17247.** *NICOTIANA SANDERAE* hyb.

**17248 and 17249.**

From Salisbury, Rhodesia, South Africa. Presented by Hon. E. Ross Townsend, Secretary for Agriculture. Received January 29, 1906.

**17248.** *CHLORIS VIRGATA*.

**Rhodes-grass.**

"Regarded as a very valuable forage plant." (*Townsend.*) (See No. 9608.)

**17249.** *PANICUM* sp.

**White rapoka.**

"The *rapoka* is a millet which forms the staple article of diet among Mashona natives, and the grass is considered to be excellent for making hay or ensilage. This sample is supposed to be a new and better variety recently introduced from north of the Zambesi." (*Townsend.*)

**17250. PISTACIA VERA.****Pistache.**

From Saratoga, Cal. Presented by Rev. A. Fuller. Received January 29, 1906.  
*Large Red Aleppo.*

**17251 to 17280. GLYCINE HISPIDA.****Soy bean.**

From Arlington Farm, Virginia.

A collection of soy beans grown on the Arlington Farm in 1905 from seed received through the Division of Agrostology.

Black varieties:

**17251.** Medium early, black. Grown from Agrost. Nos. 1978, 1979, and 2033, combined.

## 17251 to 17280—Continued.

## Black varieties—Continued.

- 17252. Flat, medium large, late, black; third crop from Agrost. No. 1293.
- 17253. Medium black; second crop from Agrost. No. 1536.
- 17254. Medium black, small seeded; first crop from Agrost. No. 1980.
- 17255. Medium black, medium early; second crop from Agrost. No. 1188.

## Brown varieties:

- 17256. Medium, reddish brown; second crop from Agrost. No. 1542.
- 17257. *Brown Eda Mame*, medium early; second crop from Agrost. No. 1185.
- 17258. *Ogemaw*, early; first crop from Agrost. No. 1992 or S. P. I. No. 13502.
- 17259. Brown, early; first crop from Agrost. No. 2031.

## Green varieties:

- 17260. *Green Samarow*, medium, medium early; first crop from Agrost. No. 1972.
- 17261. Large, medium, green; fourth crop from Agrost. No. 912 or S. P. I. No. 13503, first crop from Agrost. Nos. 1764 and 1971, combined.

## Greenish-yellow varieties:

- 17262. Small, early, greenish yellow; third crop from Agrost. No. 1297.
- 17263. Small, medium late, greenish yellow; second crop from Agrost. No. 1539.
- 17264. Medium late, greenish yellow; second crop from Agrost. No. 1198.
- 17265. Medium late, greenish yellow; second crop from Agrost. No. 1200.
- 17266. Large, medium late, greenish yellow; second crop from Agrost. No. 1171 or S. P. I. No. 9409.
- 17267. Late, large, greenish yellow; third crop from Agrost. No. 1298.

## Yellow varieties:

- 17268. *Ito San*, medium, early, yellow; first crop from Agrost. Nos. 1973, 1974, 1975, and 1765, combined.
- 17269. Dwarf, early, yellow; third crop from Agrost. No. 976.
- 17270. Medium yellow, small seed; fourth crop from S. P. I. No. 4912, third crop from Agrost. No. 1169 or S. P. I. No. 9407, and first crop from S. P. I. No. 12399.
- 17271. Medium early, yellow; second crop from Agrost. No. 1194.
- 17272. Small, medium yellow; second crop from Agrost. No. 1538.
- 17273. Medium early, yellow; second crop from Agrost. No. 1197.
- 17274. Small, early, yellow; second crop from Agrost. No. 1199.
- 17275. Medium yellow, large seed; third crop from Agrost. No. 1170 or S. P. I. No. 9408, first crop from Agrost. No. 1170-2 or S. P. I. No. 12400, and third crop from Agrost. No. 1296.
- 17276. Medium early, yellow from Thackara; second and third crops from Agrost. No. 1299.
- 17277. Medium early, yellow; third crop from Agrost. No. 1295.
- 17278. Large, medium late, yellow; first crop from Agrost. No. 2032.
- 17279. Large, late, yellow; first crop from Agrost. No. 2034.
- 17280. Large, late, yellow; first crop from Agrost. Nos. 1976 and 1977.

**17281. MEDICAGO SATIVA.****Alfalfa.**

From Deseret, Utah. Received through Mr. Frank Hinckley, January 31, 1906.  
*Turkestan.* Grown from S. P. I. No. 991.

**17282. SECHIU EDULE.****Chayote.**

From New Orleans, La. Presented by Mr. Aristide Hopkins. Received January 31, 1906.

"Fruit of a white variety considered more delicate than the green variety."  
*(Hopkins.)*

**17283 to 17326. PHASEOLUS spp.****Bean.**

From Arlington Farm, Virginia.

A collection of beans grown on the Arlington Farm in 1905 from S. P. I. seed.

**PHASEOLUS RADIATUS.****Mung bean.**

**17283.** Very early. Grown from No. 1161.

**17284.** Very early. Grown from No. 8814.

**17285.** Very early. Grown from No. 9889.

**17286.** Larger than No. 17283. Grown from No. 6430.

**PHASEOLUS sp.**

**17287.**

**PHASEOLUS RADIATUS.****Mung bean.**

**17288.** Larger than No. 17283. Grown from No. 10407.

**17289.** Medium early, medium size. Grown from No. 13394.

**17290.** Medium early, medium size. Grown from No. 13397.

**17291.** Medium early, medium size. Grown from No. 13398.

**17292.** Early, medium size. Grown from No. 13396.

**17293.** Medium early, medium large. Grown from No. 10610.

**17294.** Medium early, medium large. Grown from No. 9786.

**17295.** Early, medium large. Grown from No. 8540.

**17296.** Early, large. Grown from No. 8486.

**17297.** Smaller than others. Grown from No. 5071.

**17298.** Earlier and larger, but otherwise similar to No. 17297. Grown from No. 5437.

**17299.** Late, medium size. Grown from No. 10527.

**17300.** Late, large. Grown from No. 12775.

**17301.** Late, large. Grown from No. 13395.

**17302.** Medium late, large. Grown from No. 6562.

**17303.** Medium late. Grown from No. 6378.

**17304.** Late, large. Grown from No. 1385.

**PHASEOLUS MAX.****Mung bean.**

**17305.** Medium early, small. Grown from No. 8541.

**17306.** Medium, poor. Grown from No. 13400.

**17307.** Medium, poor. Grown from No. 13401.

**17308.** Trailing. Grown from No. 13402.

**17309.** Trailing. Grown from No. 13403.



**17283 to 17326—Continued.****PHASEOLUS CALCARATUS.**

- 17310. Late, large. Grown from No. 6564.
- 17311. Late, medium large. Grown from No. 13380.
- 17312. Late, medium large. Grown from No. 13383.
- 17313. Late, medium size. Grown from No. 13381.
- 17314. Late, medium size. Grown from No. 13382.

**PHASEOLUS ANGULARIS.****Adzuki bean.**

- 17315. Very early, small. Grown from No. 10523.
- 17316. Large, similar to No. 17315. Grown from No. 8488.

**PHASEOLUS sp.**

- 17317. Earlier and larger than the average. Grown from No. 13393.
- 17318. Medium size, medium early. Grown from No. 13392.

**PHASEOLUS ANGULARIS.****Adzuki bean.**

- 17319. Medium size, medium early. Grown from No. 13391.
- 17320. Late, large. Grown from No. 13405.
- 17321. Late, large. Grown from No. 13386.
- 17322. Late, large. Grown from No. 13384.
- 17323. Late, medium large. Grown from No. 6417.

**PHASEOLUS sp.**

- 17324. Earlier than No. 17323, small. Grown from No. 6418.

**PHASEOLUS ANGULARIS.****Adzuki bean.**

- 17325. Late, medium large. Grown from No. 8487.

**PHASEOLUS RADIATUS.****Mung bean.**

- 17326. Smaller than the average, quite late; not promising. Grown from No. 3868.

**17327 to 17436. VIGNA UNGUICULATA.****Cowpea.**

From Arlington Farm, Virginia. Crop of 1905.

- 17327. Black and white mottled.
- 17328. *Chinese Red*. Grown from Agrost. No. 979-3.
- 17329. *Chinese Brouneye*. Grown from Agrost. No. 980-3.
- 17330. *Chinese Whippoorwill*. Grown from Agrost. No. 985-3.
- 17331. *Downs Early Ripener*. Grown from Agrost. No. 1090-2.
- 17332. Grown from S. P. I. No. 8354.
- 17333. Grown from S. P. I. No. 6431.
- 17334. Grown from Agrost. No. 1204-1a-1a.
- 17335. *Extra Early Blackeye*. Grown from Agrost. No. 1232-3 or S. P. I. No. 13456.
- 17336. *Early Black*. Grown from Agrost. No. 1233-1c-1b.
- 17337. *Early Black*. Grown from Agrost. No. 1233-1a-1a.
- 17338. *California Blackeye*. Grown from Agrost. No. 1231-3 or S. P. I. No. 13457.
- 17339. *Southdown Mottled*. Grown from Agrost. No. 1221-3.
- 17340. *Clay*. Grown from Agrost. No. 1255-3 or S. P. I. No. 13458.

## 17327 to 17436—Continued.

- 17341. *Browneye*. Grown from Agrost. No. 1208-3.
- 17342. *Taylor*. Grown from Agrost. No. 1248-3 or S. P. I. No. 13476.
- 17343. *Early Black*. Grown from Agrost. No. 1233-3.
- 17344. *Unknown*. Grown from Agrost. No. 1251-3 or S. P. I. No. 13468.
- 17345. *Warren's New Hybrid*. Grown from Agrost. No. 1288-3 or S. P. I. No. 13471.
- 17346. *Large Blackeye*. Grown from Agrost. No. 1224-3 or S. P. I. No. 13455.
- 17347. Grown from Agrost. No. 1204-1d-1b.
- 17348. *Browneye Crowder*. Grown from Agrost. No. 1209-2.
- 17349. *Whippoorwill*. Grown from Agrost. No. 1269-2 or S. P. I. No. 13475.
- 17350. *Red Ripper*. Grown from Agrost. No. 1275-3.
- 17351. *Clay*. Grown from Agrost. No. 1255-1a-1a.
- 17352. *Warren's Extra Early*. Grown from Agrost. No. 1218-3.
- 17353. *Unknown*. Grown from Agrost. No. 1251-1a-1a.
- 17354. *Old Man*. Grown from Agrost. No. 1219-3.
- 17355. *Large Blackeye*. Grown from Agrost. No. 1224-1c-1.
- 17356. *Unknown*. Grown from Agrost. No. 1251-1a-1b.
- 17357. Grown from Agrost. No. 1261-1c-1b.
- 17358. *Clay*. Grown from Agrost. No. 1255-1c-1a.
- 17359. *Lady*, broad whitish. Grown from Agrost. No. 1246-1b-1.
- 17360. Grown from Agrost. No. 1261-1a-1a.
- 17361. *Red Ripper*. Grown from Agrost. No. 1257-3.
- 17362. *Large Blackeye*. Grown from Agrost. No. 1224-1a-1a.
- 17363. *White Crowder* × *Whippoorwill*. Grown from Agrost. No. 1216-2.
- 17364. *Taylor*. Grown from Agrost. No. 1248-1a-1a.
- 17365. *Red Yellow-Hull*. Grown from Agrost. No. 1278-3.
- 17366. *Blackeye* (white giant). Grown from Agrost. No. 1210-3.
- 17367. *Iron*. Grown from Agrost. No. 1247-3.
- 17368. *Taylor*. Grown from Agrost. No. 1248-1c-1b.
- 17369. *Red Mauve* selection. Grown from Agrost. No. 1479-1a-1.
- 17370. *Brown Crowder*. Grown from Agrost. No. 1490-2.
- 17371. *Small Whippoorwill Crowder*. Grown from Agrost. No. 1490½-2.
- 17372. *Wight Black Crowder*. Grown from Agrost. No. 1496-2.
- 17373. *Delicious Large Lady*. Grown from Agrost. No. 1486-2.
- 17374. *Red Whippoorwill*. Grown from Agrost. No. 1596-1.
- 17375. *Jhunga*, large white. Grown from Agrost. No. 1620-1G.
- 17376. *Chauli*, white. Grown from Agrost. No. 1632-1.
- 17377. *Choli*, small red. Grown from Agrost. No. 1636-1G.
- 17378. *Bhadela*, red. Grown from Agrost. No. 1629-1.
- 17379. *Bhadela*, red. Grown from Agrost. No. 1629-1G.
- 17380. *Barbati*, large red. Grown from Agrost. No. 1625-1G.
- 17381. *Choli*, small red. Grown from Agrost. No. 1636-1.

## 17327 to 17436—Continued.

- 17382. *Barbati*, large red. Grown from Agrost. No. 1625-1.
- 17383. *Clay*, from *Melear*. Grown from Agrost. No. 17778-1.
- 17384. Selection from hybrid *Black*  $\times$  *Iron*. Grown from Agrost. No. 2638.
- 17385. Selection from hybrid *Black*  $\times$  *Iron*. Grown from Agrost. No. 2637.
- 17386. *Sixty-Day*. Grown from Agrost. No. 2649.
- 17387. *Sixty-Day*. Grown from Agrost. No. 2651.
- 17388. *Lady-Finger*. Grown from Agrost. No. 2630.
- 17389. Selection from hybrid *Black*  $\times$  *Iron*. Grown from Agrost. No. 2639.
- 17390. *Grayeye*. Grown from Agrost. No. 2631.
- 17391. Selection from *Clay*. Grown from Agrost. No. 2634.
- 17392. *Powell's Early Prolific*. Grown from Agrost. No. 2643.
- 17393. *Red Crowder*. Grown from Agrost. No. 2642.
- 17394. *Yellow Sugar Crowder*. Grown from Agrost. No. 2645.
- 17395. Selection from *Clay*. Grown from Agrost. No. 2633.
- 17396. Selection from *Iron*. Grown from Agrost. No. 2636.
- 17397. Selection from *Iron*. Grown from Agrost. No. 2635.
- 17398. *Browneye Crowder*. Grown from Agrost. No. 2641.
- 17399. *Whittle*. Grown from Agrost. No. 2644.
- 17400. Selection from second hybrid *Brown*  $\times$  *Iron*. Grown from Agrost. No. 2640.
- 17401. *Rice, Long Lady*. Grown from Agrost. No. 1954-1.
- 17402. *Michigan Favorite*. Grown from Agrost. No. 1991-1.
- 17403. *New Era*. Grown from Agrost. No. 1936-1.
- 17404. *Brown Coffee*. Grown from Agrost. No. 1985-1G.
- 17405. Pinkish tan selection from *Steckler's Improved*. Grown from Agrost. No. 1935-c.
- 17406. *Michigan Favorite*. Grown from Agrost. No. 1991.
- 17407. *Steckler's Improved*. Grown from Agrost. No. 1935-1G.
- 17408. *Whippoorwill*  $\times$  *Lady*. Grown from Agrost. No. 2027-1.
- 17409. *Whippoorwill Saddleback*. Grown from Agrost. No. 2025-1.
- 17410. *Black*  $\times$  *Blackeye*. Grown from Agrost. No. 2021-1.
- 17411. Selection from *New Era*. Grown from Agrost. No. 2020-1.
- 17412. *Speckled Java*. Grown from Agrost. No. 2009-1.
- 17413. *Calico*. Grown from Agrost. No. 2005-1.
- 17414. *Coffee*. Grown from Agrost. No. 2008-1.
- 17415. *Conch*. Grown from Agrost. No. 2013-1.
- 17416. *Red Whippoorwill*. Grown from Agrost. No. 2003-1.
- 17417. *Extra Early Blackeye*  $\times$  *Black*. Grown from Agrost. No. 2018-1.
- 17418. *Holstein*. Grown from Agrost. No. 2014-1.
- 17419. *Little Iron*. Grown from Agrost. No. 2006-1.
- 17420. *Black-Eyed Lady*. Grown from Agrost. No. 2004-1.
- 17421. Grown from Agrost. No. 2023-1 from the Arkansas Experiment Station.
- 17422. *Warren's Extra Early*  $\times$  *Sugar Crowder*. Grown from Agrost. No. 2022-1.

**17327 to 17436—Continued.**

17423. *Iron Mountain*. Grown from Agrost. No. 2017-1.  
 17424. *Extra Early Blackeye* × *Black*. Grown from Agrost. No. 2019-1.  
 17425. *Watson's Hybrid*. Grown from Agrost. No. 2007-1.  
 17426. *Mount Olive*. Grown from Agrost. No. 2011-1.  
 17427. *Sport*. Grown from Agrost. No. 2024-1.  
 17428. *Red Crowder*. Grown from Agrost. No. 2012-1.  
 17429. Grown from Agrost. No. 2029-1 from the Arkansas Experiment Station.  
 17430. *Iron*. Grown from Agrost. No. 2136.  
 17431. *Iron*. Grown from Agrost. No. 2310.  
 17432. *Michigan Favorite*. Grown from Agrost. No. 2309.  
 17433. *Iron*. Grown from Agrost. No. 2217.  
 17434. *Iron*. Grown from Agrost. No. 2386.  
 17435. *Iron*. Grown from Agrost. No. 2260.  
 17436. *Iron*. Grown from Agrost. No. 2387.

**17437. AGAVE RIGIDA SISALANA.****Sisal.**

From Santiago de las Vegas and Havana, Cuba. Received at the Porto Rico Agricultural Experiment Station, Mayaguez, P. R., May 8, 1906.

"Suckers and rooted bulbils collected from plants growing without cultivation in the vicinity of Havana and Santiago de las Vegas." (*Dewey.*)

**17438 to 17448.**

From Floral Park, Long Island, N. Y. Received through Mr. John Lewis Childs, February 2, 1906.

- |        |                                   |                   |
|--------|-----------------------------------|-------------------|
| 17438. | STREPTOSOLEN AMABILIS MAGNIFICA.  |                   |
| 17439. | RICHARDIA FRAGRANS.               | Calla.            |
| 17440. | RICHARDIA CHILDSIANA.             | Calla.            |
| 17441. | RICHARDIA AFRICANA NANA COMPACTA. | Little gem calla. |
| 17442. | RICHARDIA PRAECOX.                | Calla.            |
| 17443. | RICHARDIA AETHIOPICA GIGANTEA.    | Calla.            |
| 17444. | RICHARDIA ELLIOTTIANA.            | Golden calla.     |
| 17445. | RICHARDIA ALBO-MACULATA.          | Spotted calla.    |
| 17446. | RICHARDIA HASTATA.                | Yellow calla.     |
| 17447. | RICHARDIA AURATA.                 | Calla.            |
| 17448. | RICHARDIA RHEMANNI.               | Rose calla.       |

**17449. MEDICAGO SATIVA.****Alfalfa.**

From Chicago, Ill. Received through the A. Dickinson Company, January 30, 1906.

Utah-grown alfalfa seed.

**17450. AVENA SATIVA.****Oat.**

From Richmond, Va. Received through T. W. Wood & Sons, February 1, 1906.

Fall-sown *Appler Rustproof*.

**17451. AVENA SATIVA.****Oat.**

From Richmond, Va. Received through T. W. Wood & Sons, January 27, 1906.  
Burt.

**17452. AVENA SATIVA.****Oat.**

From Augusta, Ga. Received through the N. L. Willet Seed Company, February 1, 1906.  
Fall-sown *Appler Rustproof*.

**17453 to 17461. XANTHOSOMA spp.****Yautia.**

From Ceylon. Presented by Mr. H. F. Macmillan. Received February 2, 1906.  
Roots as follows:

<b>17453.</b> <i>Kalu Ala.</i>	<b>17458.</b> <i>Malangu Amarillo.</i>
<b>17454.</b> <i>Malangu Blanca.</i>	<b>17459.</b> <i>Garendi Kaudala.</i>
<b>17455.</b> <i>Dehi Ala.</i>	<b>17460.</b> <i>Desa Ala.</i>
<b>17456.</b> <i>Nunie Islenio.</i>	<b>17461.</b> <i>Kelu Kaudala.</i>
<b>17457.</b> <i>Kaudala.</i>	

**17462 and 17463. XANTHOSOMA spp.****Yautia.**

From Cocoonut Grove, Fla. Received through Mr. O. W. Barrett, February 5, 1906.  
Honduras varieties.

**17464. AVENA SATIVA.****Oat.**

From Yancey, Ga. Received through Mr. H. Yancey, jr., September 28, 1904.  
Pure *Appler Rustproof* oats to be planted for the purpose of growing pure stock seed. Hand selected from S. P. I. No. 11722, February, 1906.

**17465. NICOTIANA TABACUM.****Tobacco.**

From Portici, Naples, Italy. Presented by Prof. O. Comes. Received May 16, 1906.  
*Latakia.*

**17466 to 17470.**

From North China. Received through Mr. F. N. Meyer, February 6, 1906.  
Plants and cuttings, as follows:

**17466. CAREX STENOPHYLLA.****Sedge.**

From Marble Pagoda grounds, Peking. "(Nos. 70b and 70c.) A most wonderful 'grass' for lawns. It will save a tremendous lot of drudgery if we can establish this in the United States, for, according to the gardener of the German legation grounds, it is the only 'grass' in dry North China that keeps green all summer notwithstanding droughts. It grows on the rockiest and poorest of soils and never needs mowing. I consider it of the utmost importance, especially for those regions of the United States where there is but a slight amount of precipitation." (*Meyer.*)

**17467. VITIS sp.****Grape.**

From Tientsin. "(Nos. 59, 60, and 61.) A pale purple grape ripening in early September; produces large bunches and is a heavy bearer. Taste of the berries a trifle watery, but otherwise a good grape. Can be kept in cold storage for a whole year. The vines are buried during the winter months." (*Meyer.*)

**17466 to 17470—Continued.****17468. VITIS sp.****Grape.**

From Tientsin. "(Nos. 62, 63, 64. and 65.) A dark purple grape, with somewhat smaller berries than No. 59 (S. P. I. No. 17467); otherwise the same description applies to it." (*Meyer.*)

**17469. ROSA sp.****Rose.**

From Peking. "(Nos. 67 and 68.) A semidouble, yellow rose frequently met in the gardens here. Is a very thrifty grower and able to withstand long droughts. The straight young shoots grow from 5 to 8 feet in height." (*Meyer.*)

**17470. AMYGDALUS PERSICA.****Peach.**

From Peking. "(No. 69.) Bud sticks from the tree in the grounds of the German legation in Peking, from which one bag of seeds was sent under No. 9a (S. P. I. No. 18262)." (*Meyer.*)

**17471. TRITICUM DURUM.****Macaroni wheat.**

From Littleton, Colo. Received through Mr. James B. Mills, February 7, 1906.  
*Kubanka.*

**17472. CRATAEGUS sp.****Hawthorn.**

From Shanghai, China. Presented by Rev. J. M. W. Farnham, D. D., of the Chinese Tract Society. Received February 8, 1906.

**17473. RUBUS sp.****Himalaya blackberry.**

From Albany, Oreg. Received through Mr. Albert Brownlow, February, 1906.

*Himalaya* (synonym, *Himalaya Giant*) blackberry. "This blackberry was grown by Mr. Luther Burbank from seeds received by him about 1889 or 1890 from a friend, who stated that they had been gathered high up on the Himalaya Mountains. It was sparingly disseminated by Mr. Burbank on the Pacific coast about 1894. It is reported to be a very vigorous, semitrailing variety, somewhat closely resembling the 'Evergreen' blackberry of Oregon, but, unlike that sort, shedding its leaves in autumn. In western Washington and Oregon it has been found entirely hardy and in most soils yields very large crops of fruit of good size and quality, ripening earlier than the 'Evergreen.' Although not strictly a trailer, its recumbent habit and very strong growth render a trellis advisable in its culture.

"It is distributed at this time with a view to determining its relative hardiness and its adaptability to culture in sections east of the Rocky Mountains." (*Taylor.*)

**17474. PISTACIA VERA.****Pistache.**

From Khost, India. Presented by Mr. Philip Parker, of the Indian Irrigation Service, through J. S. Davis, esq., executive engineer, Bannu, Karum Valley Irrigation Project. Received through Mr. W. T. Swingle, May 21, 1906.

"An unusually interesting deep green variety of the wild nut." (*Swingle.*)

**17475. ANDROPOGON SORGHUM.****Kafir corn.**

From Lawrence, Kans. Received through F. Barteldes & Co., April 3, 1906.

**17476. MEDICAGO SATIVA.****Alfalfa.**

From Brady, Nebr.

Seed from a single plant. Selected by J. M. Westgate, of this Department, September 28, 1905, in a field belonging to H. K. Peckham, on account of size, drought resistance, hardiness, white flowers, and seeding qualities.



**17477. PHYSALIS FRANCHETI.****Ground cherry.**

From Samarkand, Turkestan. Received through Mr. Frank Benton, February 9, 1906.

"(No. 25.) Similar to, if not identical with, No. 18 (S. P. I. 15931) from Caucasus. Pods same color, bright crimson, but longer and more pointed. Fruit seems better in quality and is sold in native bazaars. No. 18 is also eaten sometimes, but is more acid than No. 25." (*Benton.*)

**17478. CUCUMIS MELO.****Winter muskmelon.**

From Erivan, southern Caucasus, Russia. Received through Mr. Frank Benton, January 26, 1906.

"(No. 20.) Locally known as *Dutma*. Medium-sized yellow melon with light green flesh. Good quality. Keeps into the winter if hung up in a cool room. A gardener in Erivan states that it is their practice to cover the fruits, when partly grown, with earth, which is left until autumn." (*Benton.*)

**17479. ELAEAGNUS sp.****Oleaster.**

From Wagarschapat, southern Caucasus, Russia. Received through Mr. Frank Benton, January 26, 1906.

"(No. 21.) Seeds of an edible fruit known in Armenian as '*Pschad*,' which grows on a good-sized tree. The flesh of the fruit is dry and mealy, tastes something like that of a banana, but is more acid. Much sought after by children. Probably an *Elaeagnus*. Collected in October, 1905." (*Benton.*)

**17480. CUCUMIS MELO.****Winter muskmelon.**

From Old Samarkand, Turkestan. Received through Mr. Frank Benton, January 22, 1906.

"(No. 22.) Seed of a winter muskmelon purchased in Sart Bazaar at Old Samarkand, Turkestan, in December, 1905. Rather small, oval, yellow melon with dark bronze shading. Flesh light green or yellowish-green. Quality medium. Keeps until mid-winter if hung up in a cool room. Ripens when brought into a warm room." (*Benton.*)

**17481. CUCUMIS MELO.****Winter muskmelon.**

From Samarkand, Turkestan. Received through Mr. Frank Benton, January 26, 1906.

"(No. 23.) Seed of a winter muskmelon purchased in Samarkand in December, 1905. Large, oblong, yellow melon, with thick, light green flesh, fair quality; weight about 10 pounds. Keeps until midwinter if hung in a cool room. Some bronze shading on outside; may be only a large specimen of No. 22 (S. P. I. No. 17480)." (*Benton.*)

**17482. CUCUMIS MELO.****Winter muskmelon.**

From Samarkand, Turkestan. Received through Mr. Frank Benton, January 26, 1906.

"(No. 24.) Rather large, slightly oval in form, yellow outside with heavy bronze shading; flesh light green, good quality. May be only a better specimen of Nos. 22 and 23 (S. P. I. Nos. 17480 and 17481)." (*Benton.*)

**17483 to 17487.**

From Hamilton, Canada. Received through John A. Bruce & Co., February 12, 1906.

**17483. PISUM ARVENSE.****Field pea.**

*Golden Vine.*

**17484. LATHYRUS SATIVUS.****Bitter vetch.**

*Grass Pea.*

**17483 to 17487—Continued.**

- 17485.** PISUM ARVENSE. **Field pea.**  
*White Marrowfat.*
- 17486.** PISUM ARVENSE. **Field pea.**  
*Blackeye Marrowfat.*
- 17487.** PISUM ARVENSE. **Field pea.**  
*Blue Prussian.*

**17488. PHALARIS CANARIENSIS. Canary grass.**

From San Jose, Cal. Received through Braslan Seed Growers' Company, February 10, 1906.

**17489. AGROPYRON TENERUM. Slender wheat-grass.**

From Brandon, Manitoba. Received through A. E. McKenzie & Co., February 10, 1906.

**17490. ANDROPOGON SORGHUM. Sorghum.**

From Tyro, Kans. Received through Mr. G. R. Wheeler, February 12, 1906.  
*Simmon's Cane.*

**17491. MELILOTUS ALBA. Sweet clover.**

From Beloit, Wis. Received through Mr. I. M. Buell, February 12, 1906.

**17492 and 17493. VIGNA UNGUICULATA. Cowpea.**

From Arlington Farm, Virginia. Crop of 1905.

**17492.** Grown from Abyssinian seed, S. P. I. No. 11074.

**17493.** Grown from Abyssinian seed, S. P. I. No. 11091.

**17494 and 17495.**

From Auckland, New Zealand. Received through the Auckland Department of Agriculture, February 12, 1906.

**17494.** DANTHONIA SEMIANNULARIS. **Wallaby grass.**

**17495.** MICROLAENA STIPOIDES. **New Zealand meadow rice-grass.**

**17496 and 17497.**

From Lausanne, Switzerland. Presented by Prof. G. Martinet, director, Établissement Fédéral d'Essais et de Contrôle de Semences à Lausanne, February 12, 1906.

**17496.** VICIA GLABRESCENS. **Vetch.**

**17497.** LATHYRUS HETEROPHYLLUS.

**17498. KICKXIA ELASTICA.**

From Victoria, Kamerun, German West Africa. Received through the Victoria Agricultural Experiment Station, January 26, 1906.

**17499 to 17504. NICOTIANA spp. Tobacco.**

From Portici, Italy. Presented by Prof. O. Comes. Received February 9, 1906.

"A collection of varieties of tobacco forming part of the extensive collection made by Professor Comes, author of various works on tobacco, and especially the work enti-

**17499 to 17504—Continued.**

itled 'The Races of Tobacco.' Imported for breeding experiments in connection with a search for a disease-resistant strain in North Carolina." (*Fairchild.*)

**17499.** *NICOTIANA TABACUM FRUTICOSA.*

*Karchiaku.*

**17500.** *NICOTIANA TABACUM FRUTICOSA.*

*Doniaku.*

**17501.** *NICOTIANA ALATA PERSICA.*

*Schiraz.*

**17502.** *NICOTIANA RUSTICA TEXANA.*

*Calcutta.*

**17503.** *NICOTIANA RUSTICA BRASILIA.*

*Dzjouchin Rhau.*

**17504.** *NICOTIANA RUSTICA BRASILIA.*

*Veilchen.*

**17505 and 17506. CITRUS AURANTIUM.****Orange.**

From Shanghai, China. Presented by Rev. J. M. W. Farnham, D. D. Received February 8, 1906.

Orange seeds, as follows:

**17505.** From Swatow, China. "A very fine loose-skinned variety; lobes separate easily." (*Farnham.*)

**17506.** From Canton, China. "A better variety of orange than I have ever eaten in the United States or Europe. Close skin, and lobes not separable." (*Farnham.*)

**17507. CITRUS AURANTIUM.****Orange.**

From Algiers, Algeria. Presented by Dr. L. Trabut, government botanist. Received February 8, 1906.

"Seeds of the famous orange *Blida*, which, according to Doctor Trabut's label, is an early variety, having large, sweet fruits and reproducing by seeds. The *Blida* orange is one of the best grown in northern Algeria and, as I understand, these seeds are from selected fruits of this variety." (*Swingle.*)

**17508. TRIFOLIUM PRATENSE.****Red clover.**

From Lausanne, Switzerland. Presented by Prof. G. Martinet, director, Etablissement Federal D'Essais et de Controle de Semences a Lausanne. Received February 12, 1906.

Selection with yellow grains.

**17509. BETA VULGARIS.****Sugar beet.**

From Fairfield, Wash. Received through Mr. E. H. Morrison. Crop of 1905.

*Kleinwanzleben.*

**17510. QUERCUS CUSPIDATA.**

From Yokohama, Japan. Received through Mr. F. N. Meyer from the Yokohama Nursery Company, February 15, 1906.

This is an evergreen oak much used in Japan for hedges, for which it seems admirably suited. Its acorns, although of small size, are of very sweet taste when baked like chestnuts, and when boiled or roasted are regularly sold in Japan for food; not hardy in the northern States.

**17511. SECHIUM EDULE.****Chayote.**

From Biloxi, Miss. Presented by Mr. Aristide Hopkins. Received February 15, 1906.

Fruits of a green variety.

**17512. PHASEOLUS RADIATUS.****Mung bean.**

From De Quincy, La. Received through Dr. S. A. Knapp, February 16, 1906.

Grown from S. P. I. No. 10527.

**17513. ANDROPOGON SORGHUM.****Milo.**

From Memphis, Tenn. Received through Mr. J. E. Bradley, February 16, 1906.

*Dwarf.*

**17514 and 17515.**

From Buitenzorg, Java. Presented by Dr. M. Treub, director of the Botanical Gardens. Received February 16, 1906.

Seeds, as follows:

**17514. GARCINIA MANGOSTANA.**

**Mangosteen.**

**17515. NEPHELIUM LAPPACEUM.**

**Rambutan.**

Native of south India and Malay islands and furnishes a fruit similar to the Litchi, namely, the *Rambutan* or *Rambootan* fruit. All species of *Nephelium* seem to require rather a moist, mild, forest clime than great atmospheric heat.

The fruit is of a bright red color, about 2 inches long, of an oval form, and slightly flattened, and covered with long, soft, fleshy spines or thick hair. Like the other *Nepheliums* it contains a pleasant acidulous pulp, very grateful in tropical countries.

**17516. ZEA MAYS.****Corn.**

From St. Anthony Park, St. Paul, Minn. Received through the Minnesota Agricultural Experiment Station, February, 1906.

*Crosby.* Grown in 1905 from S. P. I. No. 13570; selected to ears of plump form with 14 rows and over.

**17517. ZEA MAYS.****Corn.**

From Simsbury, Conn. Received through Mr. A. R. Dayton, February, 1906.

*Crosby.* Grown in 1905 from S. P. I. No. 13570; selected from two-eared stalks.

**17518. ZEA MAYS.****Corn.**

From Simsbury, Conn. Received through Mr. A. R. Dayton, February, 1906.

*Crosby.* Grown in 1905 from S. P. I. No. 13570; selected from compact plants with ears low on stalk.

**17519. VIGNA UNGUICULATA.****Cowpea.**

From Richmond, Va. Received through T. W. Wood & Sons, February 16, 1906.

*Red Carolina.* "One of the surest cropping of cowpeas, yielding well in both wet and dry seasons. The vines are not as long as *Black* and *Red Ripper*, but are thicker and bunchier, completely covering the ground, and can be more easily cut and cured. Does well on nearly all classes of soils, and better than any other sort on stiff clay soils. The long pods contain 18 to 20 peas, and are easier and less expensive to pick than the short-podded sorts. We recommend it strongly, believing that our growers will find in it distinct advantages over other kinds." (*Wood & Sons.*)

**17520. GLYCINE HISPIDA.****Soy bean.**

From Richmond, Va. Received through T. W. Wood &amp; Sons, February 16, 1906.

*Hollybrook Early.* "A particularly valuable strain of soy beans, which matures its crop three weeks earlier than the *Mammoth Yellow* soy, and is consequently better adapted for planting in sections north of Virginia, or for planting late in order to make a crop of shelled beans. The yield from the *Hollybrook Early* soy is very nearly equal to that of the *Mammoth Yellow*, and they are sure to make a crop of beans. The *Mammoth Yellow* soy requires the full growing season to mature its crop, and frequently an early frost will cut short the yield of the crop of beans. There is no such danger with *Hollybrook Early* soys, and they will prove to be a distinct and valuable acquisition." (Wood & Sons.)

**17521. PASSIFLORA QUADRANGULARIS.****Granadilla.**

From Juarez, Chihuahua, Mexico. Presented by Mr. Elmer Stearns. Received February 15, 1906.

**17522. CUCUMIS MELO.****Winter muskmelon.**

From Isfahan, Persia. Received through Mr. Frank Benton, February 14, 1906.

"Beans transportation long distances over bad roads; good quality, very juicy, fairly sweet. Long, oval, light yellow or straw colored outside with rather fine brown netting. Kind thin, flesh light straw colored, with a watery or semitransparent appearance. Isfahan is on a great plateau, 5,400 feet above sea level." (Benton.)

**17523 and 17524.**

From Bagdad, Turkey. Presented by Hon. Rudolph Hurner, United States vice-consul. Received February 8, 1906.

**17523. ZEA MAYS.****Corn.**

"Edreh Scham" (Damascus Edren). Small, yellow flint corn.

**17524. ANDROPOGON SORGHUM.****Sorghum.**

"Edreh Trak" (or Irak).

**17525 to 17527.**

From Geneva, Idaho. Received through Mr. F. W. Boehme, February, 1906.

**17525. HORDEUM VULGARE.****Barley.***Beardless.***17526. AVENA SATIVA.****Oat.***Swedish Select.***17527. AVENA SATIVA.****Oat.***Sixty-Day.***17528 and 17529.**

From Niu-chwang, China. Received from the Chinese magistrate of the Hai-cheng district, through Mr. Thomas Sammons, United States consul-general at Niu-chwang, February 12, 1906.

**17528. CANNABIS SATIVA.****Hemp.**

"Manchurian fine thread hemp seed." (Sammons.)

**17529. ABUTILON AVICENNAE.****China jute.**

"Manchurian coarse rope hemp seed." (Sammons.)

**17530 to 17533. ARACHIS HYPOGAEA.****Peanut.**

From Mikindani, German East Africa. Presented by Prof. Dr. A. Zimmermann, Biologisch Landwirtschaftliches Institut, Amani, German East Africa. Received February 16, 1906.

No varietal names received.

**17534. DOLICHOS ATROPURPUREUS.**

From Waterloo, Kans. Received through Mr. J. W. Riggs, February 10, 1906.

**17535 to 17537. ANDROPOGON SORGHUM.****Sorghum.**

From Lyallpur, India. Received through Mr. Theodore C. Maller, of Amritsar, India, February 16, 1906.

Sorghum seed, as follows:

**17535.** *White Juar of Lyallpur.*

**17537.** *Red Juar of Lyallpur.*

**17536.** *Sweet Juar of Lyallpur.*

**17538 to 17687. ANDROPOGON SORGHUM.****Sorghum.**

From Chillicothe, Tex.

A collection of sorghums grown in 1905 on the Department's experimental farm at Chillicothe, as follows:

**17538.** *Planter's Friend.* Grown from Agrost. No. 1697, from New South Wales, Australia.

**17539.** *Planter's Friend.* Grown from Agrost. No. 2119, from Queensland, Australia.

**17540.** "*S. saccharatum.*" Grown from Agrost. No. 1605, from Sydney, Australia.

**17541.** *Black-Seeded.* Grown from Agrost. No. 1656, from New South Wales, Australia.

**17542.** *Black-Seeded.* Grown from Agrost. No. 1694, from New South Wales, Australia.

**17543.** *Amber.* Grown from Agrost. No. 1695, from New South Wales, Australia.

**17544.** *Dwarf Amber.* Grown from Agrost. No. 2118, from Queensland, Australia.

**17545.** *Undendibule.* Grown from Agrost. No. 1752, from Victoria, Australia; first selection.

**17546.** *Undendibule.* Grown from Agrost. No. 1752, from Victoria, Australia; second selection.

**17547.** *Orange.* Grown from Agrost. No. 1661, from New South Wales, Australia.

**17548.** *Orange.* Grown from Agrost. No. 1696, from New South Wales, Australia.

**17549.** *Orange.* Grown from Agrost. No. 2095, from Congressional seed distribution; first selection.

**17550.** *Orange.* Grown from Agrost. No. 2095; second selection.

**17551.** *Orange.* Grown from Agrost. No. 2125, from Queensland, Australia; first selection.

**17552.** *Orange.* Grown from Agrost. No. 2125; second selection.

**17553.** *Texas Gooseneck (Texas Seeded "Ribbon Cane").* Grown from Agrost. No. 1812, from the Texas Seed and Floral Company, Dallas, Tex.



## 17538 to 17687—Continued.

- 17554. *Sumac*. Grown from Agrost. No. 1946, from the Tennessee Experiment Station.
- 17555. *Folger's Early*. Grown from Agrost. No. 2120, from Queensland, Australia.
- 17556. *Colman*. Grown from Agrost. No. 2121, from Queensland, Australia.
- 17557. *Collier*. Grown from Agrost. No. 2124, from Queensland, Australia; first selection.
- 17558. *Collier*. Grown from Agrost. No. 2124; second selection.
- 17559. *Russian Sugar*. Grown from Agrost. No. 1581, from Russia.
- 17560. *Austrian Sugar*. Grown from Agrost. No. 1607, from Vienna.
- 17561. *Black Sorghum*. Grown from Agrost. No. 1811, from Barbados, West Indies.
- 17562. *Yellow Milo*. Grown from Agrost. No. 1753, from Victoria, Australia.
- 17563. *Yellow Milo*. Selected pendent heads grown from Agrost. No. 2522, from Thorburn & Co., New York, N. Y.
- 17564. *Yellow Milo*. Selected erect heads grown from Agrost. No. 2522.
- 17565. *Yellow Milo*. Grown from Agrost. No. 2090, from Chillicothe, Tex.
- 17566. *Red Kafir*. Grown from Agrost. No. 1751, from Victoria, Australia.
- 17567. *Red Kafir*. Grown from Agrost. No. 2116, from Queensland, Australia.
- 17568. *Black-Hulled White Kafir*. Grown from Agrost. No. 1749, from Victoria, Australia.
- 17569. *Black-Hulled White Kafir*. Grown from Agrost. No. 1993, from the Iowa Seed Company, Des Moines, Iowa.
- 17570. *White Milo*. Grown from Agrost. No. 2115, from Queensland, Australia.
- 17571. *White-Hulled White Kafir*. Grown from Agrost. No. 2122, from Queensland, Australia.
- 17572. *Black-Hulled White Kafir*. Grown from Agrost. No. 1754, from Victoria, Australia.
- 17573. *Dhavla (A)*. Grown from S. P. I. No. 14500.
- 17574. *Kulbondi*. Grown from S. P. I. No. 14508.
- 17575. *Gare Nasik*. Grown from S. P. I. No. 14516.
- 17576. *Bile Jura*. Grown from S. P. I. No. 14524.
- 17577. *Meldani*. Grown from S. P. I. No. 14535.
- 17578. *Kondi*. Grown from S. P. I. No. 14544.
- 17579. *Nadyal*. Grown from S. P. I. No. 14583.
- 17580. *Juari*. Grown from S. P. I. No. 14584.
- 17581. *White Dumraon*. Grown from S. P. I. No. 14585.
- 17582. *Gumeri*. Grown from S. P. I. No. 14586; first selection.
- 17583. *Gumeri*. Grown from S. P. I. No. 14586; second selection.
- 17584. *Dukri*. Grown from S. P. I. No. 14587.
- 17585. *Durga*. Grown from S. P. I. No. 14588.

## 17538 to 17687—Continued.

- 17586. *Bana of Jalaon*. Grown from S. P. I. No. 14589.
- 17587. *Bhanna of Jhansi*. Grown from S. P. I. No. 14590.
- 17588. *Lal*. Grown from S. P. I. No. 14591.
- 17589. *Doliya*. Grown from S. P. I. No. 14593; first selection.
- 17590. *Doliya*. Grown from S. P. I. No. 14593; second selection.
- 17591. *Bania*. Grown from S. P. I. No. 14594.
- 17592. *Laliya*. Grown from S. P. I. No. 14595.
- 17593. *Kombrai*. Grown from S. P. I. No. 14597.
- 17594. *Pyaria Iksari Banda*. Grown from S. P. I. No. 14598.
- 17595. *Iksari Banda*. Grown from S. P. I. No. 14599.
- 17596. *Pyaria*. Grown from S. P. I. No. 14600.
- 17597. *Alapuri*. Grown from S. P. I. No. 14602.
- 17598. *Dulari*. Grown from S. P. I. No. 14603.
- 17599. *Dugadia Zard*. Grown from S. P. I. No. 14604.
- 17600. *Ikdani*. Grown from S. P. I. No. 14605.
- 17601. *Purbi Magha*. Grown from S. P. I. No. 14606.
- 17602. *Country White*. Grown from S. P. I. No. 14607.
- 17603. *Dugadia Safed*. Grown from S. P. I. No. 14608; first selection.
- 17604. *Dugadia Safed*. Grown from S. P. I. No. 14608; second selection.
- 17605. *Jogia*. Grown from S. P. I. No. 14609.
- 17606. *Domni*. Grown from S. P. I. No. 14610.
- 17607. *Chatka*. Grown from S. P. I. No. 14611.
- 17608. *Bangra*. Grown from S. P. I. No. 14612.
- 17609. *Lallu*. Grown from S. P. I. No. 14613; first selection.
- 17610. *Lallu*. Grown from S. P. I. No. 14613; second selection.
- 17611. *Purbi Murabad*. Grown from S. P. I. No. 14617.
- 17612. *Deshi*. Grown from S. P. I. No. 14618.
- 17613. *Ganga Jamni*. Grown from S. P. I. No. 14619.
- 17614. *Bannia Dadri*. Grown from S. P. I. No. 14622.
- 17615. *Red of Ajangarh*. Grown from S. P. I. No. 14626; first selection.
- 17616. *Red of Ajangarh*. Grown from S. P. I. No. 14626; second selection.
- 17617. *Bannia*. Grown from S. P. I. No. 14627.
- 17618. *Jhangaria*. Grown from S. P. I. No. 14631.
- 17619. *Palarhia*. Grown from S. P. I. No. 14634.
- 17620. *Ganga Jali*. Grown from S. P. I. No. 14641.
- 17621. *Lohor*. Grown from S. P. I. No. 14647.
- 17622. *Shalu*. Grown from S. P. I. No. 14666; first selection.
- 17623. *Shalu*. Grown from S. P. I. No. 14666; second selection.
- 17624. *Makchandri*. Grown from S. P. I. No. 14667.
- 17625. *Holgi*. Grown from S. P. I. No. 14668.
- 17626. *Hundi*. Grown from S. P. I. No. 14669.
- 17627. *Kagi Moti*. Grown from S. P. I. No. 14671.

## 17538 to 17687—Continued.

- 17628. *Kalbondi*. Grown from S. P. I. No. 14673.
- 17629. *Duhar Maski*. Grown from S. P. I. No. 14674.
- 17630. *Bendri*. Grown from S. P. I. No. 14675; first selection.
- 17631. *Bendri*. Grown from S. P. I. No. 14675; second selection.
- 17632. *Guldhari*. Grown from S. P. I. No. 14676.
- 17633. *Lakdi*. Grown from S. P. I. No. 14677.
- 17634. *Shalu*. Grown from S. P. I. No. 14678.
- 17635. *Gola*. Grown from S. P. I. No. 14680.
- 17636. *Khondi Chandor*. Grown from S. P. I. No. 14684; first selection.
- 17637. *Khondi Chandor*. Grown from S. P. I. No. 14684; second selection.
- 17638. *Khondi Chandor*. Grown from S. P. I. No. 14684; third selection.
- 17639. *Dadar*. Grown from S. P. I. No. 14687.
- 17640. *Khonde Malegaon*. Grown from S. P. I. No. 14688.
- 17641. *Shalu*. Grown from S. P. I. No. 14689.
- 17642. *Dugdi*. Grown from S. P. I. No. 14691.
- 17643. *Shalu*. Grown from S. P. I. No. 14694.
- 17644. *Hundi*. Grown from S. P. I. No. 14697.
- 17645. *Waradi Juar*. Grown from S. P. I. No. 14699.
- 17646. *Hundi*. Grown from S. P. I. No. 14700.
- 17647. *Jondhala*. Grown from S. P. I. No. 14701; first selection.
- 17648. *Jondhala*. Grown from S. P. I. No. 14701; second selection.
- 17649. *Maldani*. Grown from S. P. I. No. 14702.
- 17650. *Tambdi*. Grown from S. P. I. No. 14703.
- 17651. *Gududi*. Grown from S. P. I. No. 14704.
- 17652. *Jugadi*. Grown from S. P. I. No. 14705.
- 17653. *Dadia*. Grown from S. P. I. No. 14706.
- 17654. *Fufaria*. Grown from S. P. I. No. 14707.
- 17655. *Deshi Perio*. Grown from S. P. I. No. 14708.
- 17656. *Sholapuri*. Grown from S. P. I. No. 14709.
- 17657. *Ratadia*. Grown from S. P. I. No. 14713; first selection.
- 17658. *Ratadia*. Grown from S. P. I. No. 14713; second selection.
- 17659. *Malvan*. Grown from S. P. I. No. 14718.
- 17660. *Utarli*. Grown from S. P. I. No. 14719.
- 17661. *Sakar Makar*. Grown from S. P. I. No. 14720.
- 17662. *Sundhia* (B). Grown from S. P. I. No. 14721.
- 17663. *Collier*. Grown from S. P. I. No. 14723.
- 17664. *Raj Hansa*. Grown from S. P. I. No. 14724.
- 17665. *Imphee*. Grown from S. P. I. No. 14725.
- 17666. *Motichur*. Grown from S. P. I. No. 14728.
- 17667. *Rati* (A). Grown from S. P. I. No. 14733.
- 17668. *Jogadi*. Grown from S. P. I. No. 14734.
- 17669. *Kempu Poona*. Grown from S. P. I. No. 14742.
- 17670. *Kempu* (A). Grown from S. P. I. No. 14744.

**17538 to 17687—Continued.**

- 17671.** *Holgi Gola.* Grown from S. P. I. No. 14749.  
**17672.** *Dudha Mogra.* Grown from S. P. I. No. 14750.  
**17673.** *Tambdi Sholapuri.* Grown from S. P. I. No. 14751.  
**17674.** *Dukri (B).* Grown from S. P. I. No. 14753.  
**17675.** *Holgi Jola.* Grown from S. P. I. No. 14761.  
**17676.** *Chikna.* Grown from S. P. I. No. 14762.  
**17677.** *Maldandi (A) Poona.* Grown from S. P. I. No. 14763.  
**17678.** *Kagi.* Grown from S. P. I. No. 14766.  
**17679.** *Darker.* Grown from S. P. I. No. 14767; first selection.  
**17680.** *Darker.* Grown from S. P. I. No. 14767; second selection.  
**17681.** *Darker (A).* Grown from S. P. I. No. 14768.  
**17682.** *Sundhia Juwar (Poona Farm).* Grown from S. P. I. No. 14769.  
**17683.** *Uavli.* Grown from S. P. I. No. 14771.  
**17684.** *Kavli.* Grown from S. P. I. No. 14772.  
**17685.** *Charodi (Surat Farm).* Grown from S. P. I. No. 14773.  
**17686.** *Ameria Sundhia (Nadiad Farm).* Grown from S. P. I. No. 14774.  
**17687.** *Farfaria (Nadiad Farm).* Grown from S. P. I. No. 14775.

**17688. ANDROPOGON SORGHUM.****Sorghum.**

From Chillicothe, Tex. Received through Mr. E. J. Randel. Crop of 1905.  
*Sapling.*

**17689. ANDROPOGON SORGHUM.****Sorghum.**

From Mecca, Cal. Received through Brauchman Brothers. Crop of 1905.  
*Durra.*

**17690. ANDROPOGON SORGHUM.****Sorghum.**

From Mountain View, Okla. Received through Mr. James Cummins. Crop of 1905.  
*Shallu.*

**17691. ANDROPOGON SORGHUM.****Giant milo (?).**

From Chillicothe, Tex. Received through Mr. A. B. Conner. Crop of 1905.  
 Seed of the Giant milo, or possibly a hybrid, collected from plants found growing in several fields.

**17692. ZEA MAYS.****Corn.**

From Dallas, Tex. Received through the Texas Seed and Floral Company, February 20, 1906.  
*Texas Giant Gourd.*

**17693. VIGNA UNGUICULATA.****Cowpea.**

From Dallas, Tex. Received through the Texas Seed and Floral Company, February 20, 1906.  
*Cream.*

**17694. AVENA SATIVA.****Oat.**

From Manhattan, Kans. Received through the Agricultural Experiment Station, February 20, 1906.

*Sixty-Day.*

**17695. ANDROPOGON SORGHUM.****Sorghum.**

From Waterville, Minn. Received through Mr. Seth H. Kenney, February 20, 1906.

*Minnesota Early Amber Cane.*

**17696. PHASEOLUS RADIATUS.****Mung bean.**

From San José, Cal. Received through the Braslan Seed Growers Company, February 23, 1906.

**17697. VIGNA UNGUICULATA.****Cowpea.**

From Richmond, Va. Received through T. W. Wood & Sons, February 23, 1906.

*Iron.*

**17698. MEDICAGO SATIVA.****Alfalfa.**

From Whitefish, Mont. Received through Mr. Thomas O'Hanlon, February 21, 1906.

**17699. ALOPURYON OCCIDENTALE.****Western wheat-grass.**

From Harlem, Mont. Received through Mr. Thomas M. Everett, February 21, 1906.

**17700 and 17701. AVENA SATIVA.****Oat.**

From Richmond, Va. Received through T. W. Wood & Sons, February 23, 1906.

**17700.** *Appler Rustproof.*

**17701.** *Burl.*

**17702. ANDROPOGON SORGHUM.****Sorghum.**

From Richmond, Va. Received through T. W. Wood & Sons, February 23, 1906.

*Early Amber Cane.*

**17703. XANTHOSOMA SAGITTIFOLIUM.****Yautia.**

From Port au Paix, Haiti. Received through Mr. George W. Guldin, February 23, 1906.

**17704 to 17707. DIOSPYROS KAKI.****Japanese persimmon.**

From Taikn, Korea. Received through Prof. J. G. Jack, of the Arnold Arboretum, Jamaica Plains, Mass., February 26, 1906.

Cuttings of four varieties of seedless Japanese persimmons.

**17708. MUSSAENDA FRONDOSA.**

From Manila, P. I. Received through Mr. W. S. Lyon, of the Bureau of Agriculture, February 26, 1906.

"A yellow-flowered, ornamental shrub; flowers subtended by single, large, milk-white calycine leaf; very showy." (*Lyon.*)

**17709. ORNITHOPUS SATIVUS.****Serradella.**

From Paris, France. Received through Vilmorin-Andrieux & Co., February 26, 1906.

**17710 to 17712. ARACHIS HYPOGAEA.****Peanut.**

From Yokohama, Japan. Received through the Yokohama Nursery Company, February 26, 1906.

Seed of three varieties of peanuts grown in Shimosa Province, as follows:

**17710.** Small variety.

**17711.** *Hirata*; the best in Japan; large variety.

**17712.** *Bachigai* (outsider); large variety.

**17713 and 17714. COFFEA ARABICA.****Coffee.**

From Harrar, Abyssinia. Received through the Office of Bionomic Investigations, February 26, 1906.

**17713.** CULTIVATED COFFEE.

**17714.** WILD COFFEE.

**17715 and 17716. AGAVE spp.****Century plant.**

From Washington, D. C. Received through Mr. L. H. Dewey, February, 1906.

Plants, as follows:

**17715.** AGAVE LECHEGUILLA.

From Mexico.

**17716.** AGAVE RIGIDA SISALANA.

**Sisal.**

From the Bahama Islands.

**17717. PSOPHOCARPUS TETRAGONOLOBUS.****Seguidillas.**

From Manila, P. I. Presented by Mr. W. S. Lyon, of the Bureau of Agriculture. Received February 26 and April 3, 1906.

"The pods if boiled when exceedingly young and tender taste not unlike asparagus. Vigorous climber, fruiting in three months from the seed and annually from a perennial rootstock in warm climates." (*Lyon.*)

**17718 and 17719. VITIS VINIFERA.****Grape.**

From Salonica, Turkey. Received through Rev. J. Henry House, February 15, 1906.

Cuttings, as follows:

**17718.** *White Kapadjulari.*

**17719.** *Black Kapadjulari.*

**17720. AVENA SATIVA.****Oat.**

From Aberdeen, S. Dak. Received through Mr. Isaac Lincoln, February 28, 1906.

*Sixty-Day.*

**17721. PAPPOPHORUM NIGRICANS.**

From Victoria, Australia. Presented by Prof. Hugh Pye, of the Dookie Agricultural College. Received February 21, 1906.

**17722. PHASEOLUS RADIATUS.****Mung bean.**

From Terrell, Tex. Received through W. C. Porter & Co., February 28, 1906.

Probably grown from No. 10527.



**17723 to 17743.**

From China. Received through Mr. F. N. Meyer, March 1, 1906.

A collection of bud sticks, as follows:

**17723. PYRUS SINENSIS.****Pear.**

From Matou. "(No. 75.) A fine variety of a melting pear called *Pai li*. This form looks to be different from those sent under Nos. 109 and 120 (S. P. I. No. 16911)." (Meyer.)

**17724. PYRUS SINENSIS.****Pear.**

From Matou. "(No. 73.) A large variety of the best pear of North China, the so-called Peking pear; in Chinese, *Ya kwan le*. Looks and smells like a quince, but is juicy, melting, and aromatic. May prove to be exceedingly valuable for breeding purposes. The trees grow far more spread out than pears generally do, so they must not be planted too close." (Meyer.)

**17725. PYRUS SINENSIS.****Pear.**

From Matou. "(No. 74.) A small variety of the best pear of North China. The same description as for No. 73 serves this one, only it is a far smaller variety and, as such, does not appear on the tables of the best hotels in China." (Meyer.)

**17726. PYRUS SINENSIS.****Pear.**

From Matou. "(No. 76.) A large variety of a juicy pear with nonmelting flesh. A very good keeper of fine appearance; somewhat like our *Kieffer* pear. May be most excellent for canning purposes." (Meyer.)

**17727. PYRUS sp.****Pear.**

From Tsing-ho-pu. "(No. 125.) A wild pear bearing fruits not larger than a hollyherry. Makes an extraordinarily dense head of branches and may be of use in small parks where small shade trees are wanted." (Meyer.)

**17728. AMYGDALUS PERSICA.****Peach.**

From Matou. "(No. 82.) A peach described to me by the natives as very large, red meat, and juicy. The trees are thrifty growers." (Meyer.)

**17729. AMYGDALUS DAVIDIANA.**

From the mountains near Tang-shan, near Peking. "(No. 126.) A variety of thrifty growth, with medium-sized buds. Fruits absolutely inedible, but may prove to be very valuable as a spring flowering shrub. The Chinese cultivate many different varieties as dwarfed specimens and for winter forcing." (Meyer.)

**17730. AMYGDALUS DAVIDIANA.**

From the mountains near Tang-shan, near Peking. "(No. 127.) A variety of rather stunted growth, with large-sized buds. May prove to be a valuable addition to our spring flowering shrubs." (Meyer.)

**17731. AMYGDALUS DAVIDIANA.**

From the mountains near Tang-shan, near Peking. "(No. 129.) A very diminutive form of wild peach. Grows in very rocky places and has small, silvery-white twigs. May be of use as a shrub for rockeries." (Meyer.)

**17732. PRUNUS sp.****Cherry.**

From Pee-san. "(No. 79.) A bush cherry bearing small, red fruits which ripen here in early June. Is grafted upon wild peach stock low down in the ground." (Meyer.)

**17733. PRUNUS sp.****Cherry.**

From Pee-san. "(No. 80.) A larger variety than No. 79; otherwise the same description applies to it." (Meyer.)

**17723 to 17743—Continued.****17734. PISTACIA CHINENSIS.****Pistache.**

From Wei-tsan Mountains. "(Nos. 71 and 90.) The staminate form of the Chinese pistache. A very ornamental tree with graceful, pinnate foliage; grows to very large dimensions." (Meyer.)

**17735. PISTACIA CHINENSIS.****Pistache.**

From Wei-tsan Mountains. "(Nos. 72 and 89.) The carpellate form of the Chinese pistache. A rather ornamental, small tree; bears heavy bunches of small, scarlet, and purplish colored berries." (Meyer.)

**17736. AESCULUS CHINENSIS.****Chinese horse-chestnut.**

From Wei-tsan Mountains. "(No. 81.) An ornamental shade tree with somewhat smaller leaves than the ordinary horse-chestnut; when old gets to be very spreading. A very rare tree in north China and entirely new to America." (Meyer.)

**17737. SALIX sp.****Willow.**

From Scha-ho-schonn. "(Nos. 121 and 122.) A remarkable willow which forms naturally a dense, flat-globular head." (Meyer.)

**17738. SALIX sp.****Willow.**

From the mountains near Tang-shan, near Peking. "(No. 133.) A willow with bright yellow bark, found in a ravine." (Meyer.)

**17739. CRATAEGUS PINNATIFIDA.****Hawthorn.**

From Matou. "(No. 131.) A variety differing in growth from those sent under No. 9 (S. P. I. No. 17171.) According to the natives, the fruits are of large size. Grown as an ornamental as well as a fruit tree." (Meyer.)

**17740. CATALPA BUNGEI.****Catalpa.**

From Fung-tai. "(No. 138.) Probably a different form of this beautiful tree from those sent under No. 13 (S. P. I. No. 16914)." (Meyer.)

**17741. MALUS sp.****Crab apple.**

From Fung-tai. "(No. 139.) An ornamental, red-flowered shrub, common in Chinese gardens. Probably adapted to dry places." (Meyer.)

**17742. POPULUS sp.****Poplar.**

From Matou. "(No. 77.) A poplar with small leaves and black-colored bark; grown as a wind-break on very sandy soils." (Meyer.)

**17743. POPULUS sp.****Poplar.**

From Matou. "(No. 132.) A silvery-barked poplar; grown as a wind-break on very sandy soils." (Meyer.)

**17744 to 17755.**

From Chi-li Province, China. Received at the Plant Introduction Garden, Chico, Cal., through Mr. F. N. Meyer, January 23, 1906.

A miscellaneous collection of roots and bud sticks, as follows:

**17744. RUBUS sp.**

From Shan-hai-kwan. "(No. 6.) A Rubus found in a semishady, dry situation. At the time of collection no fruits were present." (Meyer.)

**17745. JUGLANS REGIA.****Persian walnut.**

From Chang-li. "(No. 8.) Scions from a soft-shell walnut tree, which produces, according to the owner, on some branches also paper-shell nuts. Nuts sent to Washington, D. C., under 51a (S. P. I. No. 17945)." (Meyer.)

**17744 to 17755—Continued.****17746. JUGLANS REGIA.****Persian walnut.**

From Chang-li. "(No. 45.) A paper-shell walnut, of which nuts were sent to Washington, D. C., under No. 36a (S. P. I. No. 17946)." (Meyer.)

**17747. JUGLANS REGIA.****Persian walnut.**

From Chang-li. "(No. 48.) A large nut with medium soft shell." (Meyer.)

**17748. FRAXINUS LONGICUSPIS (?)****Ash.**

From Shan-hai-kwan. "(Nos. 11 and 19.) An ash which assumed fine, reddish brown tints at the time of collecting. The leaves are not as large or as pinnate as those of *Fraxinus excelsior*. The tree is decidedly ornamental." (Meyer.)

**17749. (Undetermined.)**

From Shan-hai-kwan. "(No. 41.) A shrubby *Lespedeza*, growing between rocks." (Meyer.)

**17750. (Undetermined.)**

From Shan-hai-kwan. "(No. 43.) A perennial leguminous plant with trifoliate leaves and climbing, semiwoody stems, which are extremely tenacious and are used by the Chinese in tying grapes to trellises and in upholding heavily loaded branches of fruit trees. Is the same as No. 110 (S. P. I. No. 17162)." (Meyer.)

**17751. CRATAEGUS sp.****Hawthorn.**

From Chang-li. "(No. 42.) The same as No. 10 (S. P. I. No. 17170); used as stock for *Crataegus pinnatifida*." (Meyer.)

**17752. ZIZYPHUS SATIVA.****Jujube.**

From Chang-li. "(No. 44.) A large variety of the Chinese 'date'; is grown in large orchards by the Chinese and is used either fresh or dried. The trees are planted from 5 to 10 feet apart, and the bark is ringed to make them bear more heavily." (Meyer.)

**17753. PINUS sp.****Pine.**

From Chang-li. "(No. 57.) Found growing wild in the mountains; is rather stunted when older, but looks extremely characteristic. Used by the natives to plant in graveyards." (Meyer.)

**17754. DAUCUS CAROTA.****Carrot.**

From Chang-li. "(No. 58.) A blood red carrot; a very sweet variety used cooked and pickled." (Meyer.)

**17755. VITIS sp.****Grape.**

From Tientsin. "(No. 66.) A light purple grape with rather small berries; otherwise the same description applies to it as to those sent under Nos. 59 and 65 (S. P. I. Nos. 17467 and 17468)." (Meyer.)

**17756 and 17757. ANDROPOGON SORGHUM.****Sorghum.**

From Lawrence, Kans. Received through F. Barteldes & Co., March 2, 1906.

**17756. Colman Orange Cane.****17757. African.**

**17758 to 17832.**

From Glasnevin, Dublin, Ireland. Received from the Royal Botanic Gardens, March 2, 1906.

A collection, mostly of grass and leguminous forage plants seeds, as follows:

17758.	ERODIUM ABSINTHOIDES.	17796.	AEGILOPS SQUARROSA.
17759.	ERODIUM CHEILANTHIFOLIUM.	17797.	AEGILOPS TRIARISTATA.
17760.	ERODIUM CHELIDONIFOLIUM.	17798.	AEGILOPS TRIUNCIALIS.
17760a.	ERODIUM GRUINUM.	17799.	AGROPYRON ACUTUM.
17761.	ERODIUM HYMENODES.	17800.	AGROPYRON MURICATUM.
17762.	ERODIUM MANESCAVI.	17801.	ARRHENATHERUM AVENA- CEUM.
17763.	ERODIUM PELARGONIFLORUM.		
17764.	ERODIUM SEMENOVII.	17802.	ARRHENATHERUM AVENA- CEUM BULBOSUM.
17765.	ERODIUM TRICHOMANIFOLIUM.		
17766.	ERODIUM VERBENAEFOLIUM.	17803.	AVENA ARGENTEA.
17767.	GALEGA BILOBA.	17804.	AVENA ATROPURPUREA.
17768.	GALEGA PERSICA.	17805.	AVENA ORIENTALIS.
17769.	LATHYRUS ARMITAGEANUS.	17806.	DACTYLIS ALTAICA.
17770.	LATHYRUS CRUIKSHANKII.	17807.	DACTYLIS GLAUDESCENS.
17771.	LATHYRUS GORGONI.	17808.	DACTYLIS HISPANICA.
17772.	LATHYRUS LATIFOLIUS.	17809.	HIEROCHLOE BOREALIS.
17773.	LATHYRUS NISSOLIA.	17810.	HOLCUS ARGENTEUS.
17774.	LATHYRUS ODORATUS.	17811.	PENNISETUM CAUDATUM.
17775.	LATHYRUS PYRENAICUS.	17812.	PENNISETUM LATIFOLIUM.
17776.	LATHYRUS ROTUNDFOLIUS.	17813.	PHALARIS COERULESCENS.
17777.	LATHYRUS SIETHORPIL.	17814.	PHALARIS TRIGYNA.
17778.	MEDICAGO DECANDOLLII.	17815.	PHLEUM ARENARIUM.
17779.	MEDICAGO ELEGANS.	17816.	PHLEUM ASPERUM.
17780.	MEDICAGO INTERTEXTA.	17817.	PHLEUM BOEHMERI.
17781.	MEDICAGO ORBICULARIS.	17818.	PHLEUM INTERMEDIUM.
17782.	MEDICAGO SCUTELLATA.	17819.	PHLEUM MICHELII.
17783.	MEDICAGO TUBERCULATA.	17820.	PHLEUM PARNASSICUM.
17784.	MELILOTUS LEUCANTHA.	17821.	PHLEUM PRATENSE.
17785.	ONOBRYCHIS CAPUT-GALLI.	17822.	PHLEUM TENUE.
17786.	ONOBRYCHIS CRISTA-GALLI.	17823.	BRACHYPODIUM PINNATUM.
17787.	SCORPIURUS MURICATUS.	17824.	AGROPYRON REPENS.
17788.	SCORPIURUS SUBVILLOSUS.	17825.	TRITICUM VULGARE (?)
17789.	SCORPIURUS VERMICULATA.	17826.	AGROPYRON CRISTATUM.
17790.	VICIA GRANDIFLORA.	17827.	AGROPYRON ELYMOIDES.
17791.	VICIA OROBUS.	17828.	TRITICUM FIRMUM.
17792.	VICIA SYLVATICA.	17829.	AGROPYRON REPENS.
17793.	AEGILOPS MACROCHAETA.	17830.	TRITICUM TURGIDUM.
17794.	AEGILOPS MACRURA.	17831.	AGROPYRON REPENS.
17795.	AEGILOPS OVATA.	17832.	DIANTHUS SQUARROSUS.

**17833 and 17834. ANDROPOGON SORGHUM.****Sorghum.**

From Des Moines, Iowa. Received through the Iowa Seed Company, March 3, 1906.

*Amber Cane.*

**17835 and 17836. IPOMOEA spp.**

From Miami, Fla. Received through the Subtropical Laboratory and Garden (Nos. 185 and 186), March 5, 1906.

**17835.** Seed of a yellow-flowered variety of *Ipomoea*; origin, Cuba. (No. 186.)

**17836.** Seed of a purple-flowered variety of *Ipomoea*; origin, Jamaica, British West Indies. (No. 185.)

**17837 to 17841.**

From New York, N. Y. Received through Henry Nungesser & Co., March 5, 1906.

Grass and forage crop seeds, as follows:

**17837.** *AGROSTIS ALBA.*

**Redtop.**

**17838.** *FESTUCA ELATIOR.*

**Tall fescue.**

**17839.** *ORNITHOPUS SATIVUS.*

**Serradella.**

**17840.** *TRIFOLIUM PRATENSE.*

**Red clover.**

**17841.** *TRIFOLIUM INCARNATUM.*

**Crimson clover.**

The ordinary or early crimson clover.

**17842 to 17954.**

From Peking, China. Received through Mr. F. N. Meyer, February 23, 1906.

A collection of seeds, as follows:

**17842.** *QUERCUS DENTATA.*

**Oak.**

From Ming Tombs. "(No. 25a.) Seed obtained from the same tree as that sent under No. 12a (S. P. I. No. 18265); secured later in the season, the green leaves having changed to a gorgeous red. Probably the same as No. 24a (S. P. I. No. 17879)." (*Meyer.*) (For description see No. 18265.)

**17843.** (Undetermined.)

From Peking. "(No. 122a.) Seed of a plant bearing bright scarlet-colored nonedible fruits about the size of an egg." (*Meyer.*)

**17844.** *PRUNUS ARMENIACA.*

**Apricot.**

From Peking. "(No. 15a.) Seed of a sweet variety of apricot sold in Peking under the name of 'almonds'; are eaten as dessert and also used in confectionery." (*Meyer.*)

**17845.** *PRUNUS ARMENIACA.*

**Apricot.**

From Peking. "(No. 16a.) Seed of a bitter variety of apricot sold in Peking under the name of 'almonds'; used only in confectionery." (*Meyer.*)

**17846.** *ARISTOLOCHIA* sp.

From Shan-hai-kwan. (No. 134a.)

**17847.** *PHASEOLUS ANGULARIS.*

**Adzuki bean.**

From Chang-li. "(No. 37a.) Considered to be the best table bean in Chang-li." (*Meyer.*)

**17842 to 17954—Continued.****17848. PHASEOLUS RADIATUS.****Mung bean.**

From Chang-li. "(No. 43a.) A small, edible bean; is grown between rows of sweet potatoes and also cotton; ripens before either of these crops are ready to be harvested." (*Meyer.*)

**17849. VIGNA UNGICULATA.****Cowpea.**

From Tientsin. "(No. 144a.) Used for food; also roasted for confectionery." (*Meyer.*)

**17850. PHASEOLUS CALCARATUS.****Bean.**

From Shan-hai-kwan. "(No. 46a.) A small, long bean differing in shape from all other beans; used for food, especially in soups." (*Meyer.*)

**17851. PHASEOLUS ANGULARIS.****Adzuki bean.**

From Tientsin. "(No. 143a.) A variety of bean used for food; also for confectionery. The beans are boiled, made in a pulp, sweetened with sugar, and baked in small cakes." (*Meyer.*)

**17852. GLYCINE HISPIDA.****Soy bean.**

From Peking. "(No. 17a.) These beans are roasted and sold in Peking as delicatessen." (*Meyer.*)

**17853. VICIA FABA.****Broad bean.**

From Shan-hai-kwan. "(No. 45a.) A green variety of broad bean; apparently a different strain." (*Meyer.*)

**17854. RICINUS COMMUNIS.****Castor oil plant.**

From Peking. "(No. 61a.) The ordinary castor oil bean. The oil is extracted from the seeds and used in the native lamps. After frost the stalks are uprooted and used for fuel." (*Meyer.*)

**17855. VIGNA UNGICULATA.****Cowpea.**

From Shan-hai-kwan. "(No. 44a.) A light-colored bean used as food; grown between millet and sweet potatoes." (*Meyer.*)

**17856. VIGNA UNGICULATA.****Cowpea.**

From Shan-hai-kwan. "(No. 47a.) A light brown-colored bean used for food in the green and dried state; grown between rows of small millet and sweet potatoes." (*Meyer.*)

**17857. GLYCINE HISPIDA.****Soy bean.**

From Shan-hai-kwan. "(No. 42a.) Used for food in Shan-hai-kwan." (*Meyer.*)

**17858. PHASEOLUS VULGARIS.****Bean.**

From Tientsin. "(No. 81a.) A fine variety of Red Haricot beans; eaten when green." (*Meyer.*)

**17859. PHASEOLUS VULGARIS.****Bean.**

From Peking. "(No. 18a.) *White Haricot.* These are eaten boiled as dry beans, or are used as a vegetable when fresh, and as such they are very fine. Might do well as string beans in the Atlantic States." (*Meyer.*)

**17860. VICIA FABA.****Horse bean.**

From Tchang-ping-tcho. "(No. 115a.) A horse bean used for food in north China." (*Meyer.*)

**17861. GLYCINE HISPIDA.****Soy bean.**

From Sachon. "(No. 28a.) A small, black soy bean grown for fodder; late variety. An excellent food for stock; must be boiled before being fed." (*Meyer.*)



## 17842 to 17954—Continued.

17862. *GLYCINE HISPIDA*.

Soy bean.

From Tientsin. "(No. 152a.) A fine variety of soy bean used to make bean cheese from." (*Meyer*.)

17863. *FAGOPYRUM ESCULENTUM*.

Buckwheat.

From Shan-hai-kwan. "(No. 48a.) A variety of buckwheat sparsely grown around Shan-hai-kwan; used for making bread." (*Meyer*.)

17864. *BRASSICA PE-TSAI*.

Pe-tsai cabbage.

From Shan-hai-kwan. "(No. 58a.) An excellent, white, long-headed cabbage, which can be kept in cellars all winter. The plants love a rich, well-worked soil and can not stand drought. The Chinese irrigate them carefully, for the more they are irrigated the larger they grow. Chinese name *Pai tsay*." (*Meyer*.)

17865. *BRASSICA PE-TSAI*.

Pe-tsai cabbage.

From Tientsin. "(No. 83a.) A very small variety of green cabbage." (*Meyer*.) Apparently a mixture of several species.

17866. *BRASSICA PE-TSAI*.

Pe-tsai cabbage.

From Tchang-ping-tcho. "(No. 80a.) A very heavy, long-headed white cabbage; late variety." (*Meyer*.)

17867. *BRASSICA CHINENSIS*.

Pak-choi cabbage.

From Tientsin. "(No. 100a.) A short cabbage of which the midribs of the leaves get to be quite fleshy. Sold in Tientsin, but as yet I have not seen it anywhere else." (*Meyer*.)

17868. *BRASSICA PE-TSAI*.

Pe-tsai cabbage.

From Chang-li. "(No. 1a.) A remarkably fine variety of white cabbage; the best I have ever seen. It is a long-headed variety and grows from 2½ to 3 feet high. The taste and smell are entirely different from any other cabbage. A very fine vegetable. Wants careful culture and can not stand drought. Known as *Shantung cabbage*." (*Meyer*.)

17869. *BRASSICA PE-TSAI*.

Pe-tsai cabbage.

From Shan-hai-kwan. "(No. 101a.) Sold to me as a *Shantung* cabbage; a very good variety." (*Meyer*.)

17870. *DAUCUS CAROTA*.

Carrot.

From Hsuen-hwa-fu. "(No. 30a.) A sweet, light yellow, nearly white carrot. Grows on alkaline soil." (*Meyer*.)

17871. *DAUCUS CAROTA*.

Carrot.

From Tientsin. "(No. 82a.) An orange colored, medium short variety of the ordinary carrot; more in favor here than the beet-red variety." (*Meyer*.)

17872. *DAUCUS CAROTA*.

Carrot.

From Tchang-ping-tcho. "(No. 66a.) A very sweet, beet-red carrot. Is used boiled as well as pickled. Loves a well-drained soil and does not want to suffer from drought." (*Meyer*.)

17873. *CELASTRUS PANICULATUS* (?).

From Shan-hai-kwan. "(No. 123a.) A very large variety found growing in the mountains near Shan-hai-kwan." (*Meyer*.)

17874. *CELASTRUS PANICULATUS* (?).

From Shan-hai-kwan. "(No. 124a.) A very small variety found growing in the mountains near Shan-hai-kwan." (*Meyer*.)

17875. *CELTIS* sp.

From Tang-san. "(No. 92a.) A rather large-leaved *Celtis*; useful as a small shade tree." (*Meyer*.)

## 17842 to 17954—Continued.

17876. *CASTANEA SATIVA*.

Chestnut.

From Peking. "(No. 33a.) The largest variety to be found on the markets in Peking; said to have come from Chee-san, near Chang-li. The nuts are roasted with sand and an oily substance which bleaches them, and are remarkably sweet. The trees on which they grow are seedlings." (Meyer.)

17877. *CASTANEA SATIVA*.

Chestnut.

From Peking. "(No. 34a.) The ordinary Chinese chestnut, sold everywhere in northern China. They are very small, but make up in sweetness what they lack in size. Are roasted the same as No. 33a (S. P. I. No. 17876), and are said to have come from Chee-san, near Chang-li. The trees I saw there grow in sheltered spots and seem to love a rocky soil." (Meyer.)

17878. *QUERCUS* sp.

Oak.

From western hills near Peking. "(No. 26a.) A fine oak, resembling a chestnut. The acorns are eagerly collected and used for tanning purposes. Probably not very hardy, as it grows in quite sheltered valleys." (Meyer.)

17879. *QUERCUS DENTATA*.

Oak.

From Tang-san. "(No. 24a.) A beautiful, large-leaved oak. The leaves assume gorgeous colors in autumn; a very desirable tree. Grows to medium dimensions." (Meyer.)

17880. *ZEA MAYS*.

Corn.

From Pee-san. "(No. 19a.) A very fine strain of corn growing in a rather dry part of the country. This is one of the best varieties I have seen in northern China. The plants grow about six feet high and have uniformly two ears to each stalk." (Meyer.)

17881. *ZEA MAYS*.

Corn.

From Shan-hai-kwan. "(No. 20a.) A white-seeded corn growing on stony soil around Shan-hai-kwan, where it gets quite cold." (Meyer.)

17882. *CRATAEGUS PINNATIFIDA*.

Hawthorn.

From Chang-li. "(No. 52a.) The largest variety of *Crataegus pinnatifida*. A fine fruit for preserves, and a very ornamental tree; is simply loaded in the fall with red berries and keeps its large, glossy, green leaves till late in autumn." (Meyer.)

17883. *CRATAEGUS PINNATIFIDA*.

Hawthorn.

From Chang-li. "(No. 104a.) Fruits of different sizes to show variation." (Meyer.)

17884. *DOLICHOS LABLAB*.

Hyacinth bean.

From western hills near Peking. "(No. 96a.) The same as No. 95a (S. P. I. No. 17885), but from a different locality." (Meyer.)

17885. *DOLICHOS LABLAB*.

Hyacinth bean.

From Hawai-jou. "(No. 95a.) A bean which is grown around gardens as a windbreak, and at the same time the green beans are used as a vegetable; they are somewhat coarse but do not taste at all bad. The plant is a climber and as such needs supports." (Meyer.)

17886. *ELAEOAGNUS* sp.

From Chang-li. "(No. 120a.) A silvery-leaved *Elaeagnus* which ripens small, red berries in October. Grows from 5 to 6 feet high. Under cultivation it might become denser headed and be an ornamental shrub." (Meyer.)

17887. *MALUS* sp.

Crab apple.

From Peking. (Not numbered by Meyer.) "A crab apple sold on the streets in Peking." (Meyer.)

## 17842 to 17954—Continued.

17888. *GLEDITSIA* sp.

From Hwai-lai. "(No. 109a.) A small tree; may be fit for a shade tree. Can apparently stand lots of cold and drought, as I found them growing on the edges of a ravine on the road to Mongolia." (Meyer.)

17889. *GLEDITSIA* sp.

From Wei-tsan Mountains near Peking. "(No. 106a.) An ornamental shade tree, bearing dark-brown pods. Apparently a slow grower." (Meyer.)

17890. *CORYLUS* sp.

Hazelnut.

From Peking. "(No. 32a.) A small hazelnut said to have come from very far north; bought in Peking." (Meyer.)

17891. *HUMULUS* sp.

Hop.

From Tientsin. "(No. 136a.) A wild hop found growing around here along banks and in thickets." (Meyer.)

17892. *ZIZYPHUS SATIVA*.

Jujube.

From Peking. "(No. 14a.) The Chinese collect the fruit and make a paste from it by boiling the fruit and straining the liquid. It is a bad weed that easily overruns dry plains. It grows over the whole Peking city wall and its spines easily break off in one's flesh. To be used for breeding purposes." (Meyer.)

17893. *JUNIPERUS CHINENSIS*.

Chinese juniper.

From Tang-san. "(No. 71a.) Seeds from a very pyramidal form of the juniper. These are universally used in northern China to plant around graves, and also as windbreaks. They seem to be able to withstand much drought." (Meyer.)

17894. *KOELREUTERIA PANICULATA*.

Varnish tree.

From Ming Tombs. "(No. 85a.) Seed from the bladderpod tree, varying in looks from the usual type." (Meyer.)

17895. *BRASSICA OLERACEA*.

Kohlrabi.

From Hsuen-hwa-fu. "(No. 73a.) A very large variety of kohlrabi grown where the soil is strongly alkaline." (Meyer.)

17896. *CASTANEA SATIVA*.

Chestnut.

From Tientsin. "(No. 146a.) A large variety of chestnut sold on Tientsin market; very sweet when boiled or roasted." (Meyer.)

17897. *ACER* sp.

Maple.

From Tang-san. "(No. 27a.) A very beautiful maple which grows to be a medium-sized tree, of very characteristic form. The leaves assume gorgeous colors in the fall." (Meyer.)

17898. *ACER* sp.

Maple.

From Wei-tsan Mountains near Peking. "(No. 67a.) An ornamental, small-leaved maple, growing wild in the mountains." (Meyer.)

17899. *CHAETOCLOA ITALICA*.

Millet.

From Chang-li. "(No. 53a.) A small variety of millet sold in Chang-li, where it is ground up and used for food." (Meyer.)

17900. *CHAETOCLOA ITALICA*.

Millet.

From Chang-li. (No. 105a.)

17901. *CHAETOCLOA ITALICA*.

Millet.

From Chang-li. "(No. 50a.) A variety of medium-sized millet, growing about 5 feet high; stools out very much and is, consequently, a great straw producer. The seeds are used as food, but are not valued as highly as other millets on account of the difficulty of hulling them." (Meyer.)

## 17842 to 17954—Continued.

17902. *AMYGDALUS PERSICA*.

Peach.

From Peking. "(No. 88a.) Seed from fruits, among which were some strange types, eaten in different places in north China." (*Meyer*.)

17903. *AMYGDALUS PERSICA*.

Peach.

From Shan-hai-kwan. "(No. 89a.) A hardy variety which can probably be grown very far north." (*Meyer*.)

17904. *PERILLA OCYMOIDES*.

Perilla.

From Peking. "(No. 79a.) A plant grown in some localities for the production of oil, which is obtained from the seed." (*Meyer*.)

17905. *DIOSPYROS LOTUS*.

Persimmon.

From Chang-li. "(No. 69a.) A long-fruited, wild persimmon. The fruits are small and not borne in such great quantities as No. 57a (S. P. I. No. 17906); otherwise the same description applies to it." (*Meyer*.)

17906. *DIOSPYROS LOTUS*.

Persimmon.

From Chang-li. "(No. 57a.) A round-fruited, wild persimmon. The fruits are not larger than a cherry, but are very sweet tasting and the trees are heavily loaded. A valuable acquisition as a fruit and ornamental tree, also as a stock plant for the large, seedless persimmon." (*Meyer*.)

17907. *DIOSPYROS LOTUS*.

Persimmon.

From Nankon Pass. "(No. 31a.) Seed of the wild persimmon collected from old trees growing at elevated points and apparently at the northern limit of their kind. To be used as stock for the large, seedless persimmon, and also for its fruit and as an ornamental." (*Meyer*.)

17908. *RHAMNUS* sp.

From Shan-hai-kwan. "(No. 132a.) A very small, shrubby *Rhamnus* growing wild in the mountains. Well fit for rockeries and as a very small hedge plant." (*Meyer*.)

17909. *RHAMNUS* sp.

From Tang-san. "(No. 126a.) A large-leaved, bushy *Rhamnus* from 3 to 6 feet in height; loaded at time of collection with black berries. Might do well as a hedge plant, as it has long spines and is very dense." (*Meyer*.)

17910. *PINUS* sp.

Pine.

From Chang-li. "(No. 129a.) The common pine found growing in Chinese cemeteries." (*Meyer*.)

17911. *PINUS BUNGEANA*.

Pine.

From Ming-Tombs. (No. 108a.) The same as S. P. I. No. 17912.

17912. *PINUS BUNGEANA*.

Pine.

From Wei-tsan Mountains. "(No. 137a.) A very beautiful pine with silvery white bark; a slow grower, but extremely striking when old. The bark peels off in flakes, like the sycamore, but the foliage is not as dense as in most other pines." (*Meyer*.)

17913. *PRUNUS* sp.

Plum.

From Peking. "(No. 90a.) Apparently a very late plum; freestone; fruits not very large, yellowish green with a purplish bloom; rather sweet in taste." (*Meyer*.)

17914. *ORYZA SATIVA*.

Rice.

From Shan-hai-kwan. "(No. 49a.) A variety of upland rice said to be a softer quality than the one sent under No. 40a (S. P. I. No. 17915)." (*Meyer*.)

17915. *ORYZA SATIVA*.

Rice.

From Shan-hai-kwan. "(No. 40a.) An upland rice grown sparingly around here. Should be hardy very far north." (*Meyer*.)

## 17842 to 17954—Continued.

17916. *ORYZA SATIVA*.

Rice.

From Sachon. "(No. 29a.) Bought as an upland rice, but apparently is a lowland variety. Should do well quite far north, as the place where it was raised is about 50 miles north of Peking." (Meyer.)

17917. *ORYZA SATIVA*.

Rice.

From Chang-li. "(No. 39a.) An upland rice cultivated around Chang-li. Should be hardy pretty far north." (Meyer.)

17918. *CELASTRUS FLAGELLARIS*.

From Wei-san Mountains, near Peking. "(No. 68a.) A small, creeping shrub, bearing red, edible berries." (Meyer.)

17919. *SESAMUM INDICUM*.

Sesame.

From Tientsin. "(No. 149a.) These seeds are universally used throughout China in confectionery and baked on the surface of round cakes, and as such they taste pretty good. The plants seem to like a rather rich soil, and produce many seed pods on one stalk. The Chinese also make an oil out of the seed, in which they fry nearly everything." (Meyer.)

17920. *ANDROPOGON SORGHUM*.

Sorghum.

From Pee-san. "(No. 21a.) This variety has white seeds and is used for making bread; as such it is more highly esteemed than the brown-colored varieties, which are generally only used as fodder for the domestic animals." (Meyer.)

17921. *ANDROPOGON SORGHUM*.

Sorghum.

From Pee-san. "(No. 22a.) A variety with dark brown seeds, universally used throughout north China as fodder for domestic animals. The stems of sorghum are used in building houses, the stalks being embedded in the mud walls, also for making fences, baskets, mats, tying and roofing material, and for fuel." (Meyer.)

17922. *ANDROPOGON SORGHUM*.

Sorghum.

From Pee-san. "(No. 23a.) A variety with light brown seeds, not very much grown. It is used where found as a fodder plant and also for making a brown-colored kind of bread." (Meyer.)

17923. *ANDROPOGON SORGHUM*.

Sorghum.

From Tientsin. "(No. 151a.) A superior variety of sorghum which grows from 15 to 20 feet in height. The grain is ground, and from the flour a good kind of bread is made; is used also for the same purpose as the one described under No. 22a (S. P. I. No. 17921). In addition to this the leaves are pulled off before they have turned brown, when they make an excellent cattle food, either fresh or dry. The roots are also dug and used as fuel." (Meyer.)

17924. *SPINACIA OLERACEA*.

Spinach.

From Tchang-ping-tcho. "(No. 55a.) An exceptionally good winter spinach, which, with a little protection from cold, produces greens the greater part of the winter. The seeds should be sown very thinly, as the plants grow rather large." (Meyer.)

17925. *HELIANTHUS ANNUUS*.

Sunflower.

From western hills, near Peking. "(No. 59a.) The ordinary, single-headed sunflower, used in China in many ways. The leaves are pulled off and fed to domestic animals; the seeds are eaten as delicatessen, and the stalks are used for fuel." (Meyer.)

17926. *THUYA ORIENTALIS*.

Arborvitae.

From Peking. "(No. 84a.) Seeds collected from old, weather-beaten trees on the grounds of the Temple of Heaven in Peking. Can stand lots of cold and drought." (Meyer.)



**17842 to 17954—Continued.****17927. NICOTIANA sp.****Tobacco.**

From western hills near Peking. "(No. 62a.) An inferior tobacco much used by the lower classes." (*Meyer.*)

**17928. NICOTIANA TABACUM.****Tobacco.**

From Chang-li. "(No. 86a.) A medium quality of tobacco grown around Chang-li." (*Meyer.*)

**17929. JUGLANS hyb. (?)****Walnut.**

From Nankon Pass. "(No. 87a.) A very strange walnut. Those with highly undulated surfaces are used as a remedy for stiff fingers, and the smooth ones are eaten. A hard-shelled variety. Probably a hybridization has taken place between *J. mandshurica* and *J. regia sinensis*." (*Meyer.*)

**17930. RAPHANUS SATIVUS.****Radish.**

From Chang-li. "(No. 2a.) A giant red radish; flavor not strong. Seems to like a well-drained, sandy soil. Attains a size of from 3 to 7 inches in diameter." (*Meyer.*)

**17931. RAPHANUS SATIVUS.****Radish.**

From San-kai-tien. "(No. 76a.) A red radish of elongated form. Looks very nice when exposed for sale." (*Meyer.*)

**17932. RAPHANUS SATIVUS.****Radish.**

From Shan-hai-kwan. "(No. 56a.) A radish with a sweet, fresh taste; is very appetizing if cut lengthwise and eaten raw either before or with meals. These seeds have both the green and red varieties among them." (*Meyer.*)

**17933. RAPHANUS SATIVUS.****Radish.**

From Shan-hai-kwan. "(No. 60a.) A late variety of a long, white radish; quite sweet and not at all strong when boiled." (*Meyer.*)

**17934. RAPHANUS SATIVUS.****Radish.**

From Shan-hai-kwan. "(No. 74a.) A smaller variety than No. 2 (S. P. I. No. 17930); otherwise the same description applies to it." (*Meyer.*)

**17935. RAPHANUS SATIVUS.****Radish.**

From San-kai-tien. "(No. 75a.) A very strange variety, the outside looking like a long, green turnip; wine red colored flesh. Is sliced and eaten raw as a relish." (*Meyer.*)

**17936. RAPHANUS SATIVUS.****Radish.**

From Shan-hai-kwan. "(No. 77a.) A green variety; very appetizing if sliced and eaten raw." (*Meyer.*)

**17937. RAPHANUS SATIVUS.****Radish.**

From Tientsin. "(No. 78a.) The same as No. 77a (S. P. I. No. 17936), but obtained in a different locality." (*Meyer.*)

**17938. AMPELOPSIS sp.**

From Tientsin. "(No. 70a.) An ornamental vine well fit to cover trellises or verandas; has deeply lacinate, palmate leaves, and bears yellow berries in the fall. Seems to be very hardy and able to withstand droughts." (*Meyer.*)

**17939. AMPELOPSIS sp.**

From Tientsin. "(No. 93a.) A vine bearing red berries, similar to No. 70a (S. P. I. No. 17938) but more ornamental." (*Meyer.*)

**17940. AMPELOPSIS sp.**

From Wei-tsan Mountains near Peking. "(No. 113a.) A vine bearing small, white berries; may be fit for covering fences and rough places." (*Meyer.*)



## 17842 to 17954—Continued.

17941. *VITEX* sp.

From Wei-tsan Mountains near Peking. "(No. 116a.) An aromatic plant, the peeled twigs of which are used to make fine baskets, and the flowering tops are dried and used as insect powder." (*Meyer.*)

17942. *AMPELOPSIS* sp.

From Shan-hai-kwan. "(No. 133a.) A vine with deeply lobed leaves and white berries; may be fit to cover rock fences or waste places." (*Meyer.*)

17943. *JUGLANS REGIA*.

Persian walnut.

From Gopo, near Chang-li. "(No. 41a.) A large variety of soft-shelled walnut." (*Meyer.*)

17944. *JUGLANS REGIA*.

Persian walnut.

From Peking. "(No. 35a.) A very large walnut bought in Peking." (*Meyer.*)

17945. *JUGLANS REGIA*.

Persian walnut.

From Gopo, near Chang-li. "(No. 51a.) A very soft-shelled walnut; can be cracked with the hand. Not a perfect nut, though. These nuts are from one tree, which, according to the owner, produces perfectly shelled nuts on some branches and imperfectly formed ones on other branches." (*Meyer.*)

17946. *JUGLANS REGIA*.

Persian walnut.

From Chang-li. "(No. 36a.) This is the genuine paper-shell walnut and as such sells for three times as much money as the hard-shelled varieties. The nuts can be peeled like peanuts. The trees are seedlings and are scattered through the groves." (*Meyer.*)

17947. *TRITICUM VULGARE*.

Wheat.

From Chang-li. "(No. 38a.) A sample of the best wheat sold in Chang-li." (*Meyer.*)

17948. *ROSA* sp.

Rose.

From Chang-li. "(No. 130a.) A wild rose found growing along earth banks." (*Meyer.*)

17949. *WISTARIA CHINENSIS*.

Chinese wistaria.

From Tang-san. (No. 107a.)

17950. *ARTEMISIA ANNUA*.

Wormwood.

From Peking. "(No. 111a.) This is the plant on which the people around here graft their chrysanthemums and on which they do well. The Chinese claim the chrysanthemum does better when grafted than when left on its own roots; they also say the grafted plants bear transplanting and lack of water much the best." (*Meyer.*)

17951. *XANTHOXYLUM* sp.

From Shan-hai-kwan. "(No. 125a.) A fine-leaved *Xanthoxylum* growing wild in the mountains near Shan-hai-kwan. Attains a height of from 4 to 5 feet, is rather ornamental, and has a very agreeable odor." (*Meyer.*)

17952. *XANTHOXYLUM BUNGEI* (?).

From Poo-san. "(No. 128a.) Used as a hedge plant. The seeds and fruit capsules furnish the Chinese with pepper; the fruit is pretty pungent." (*Meyer.*)

17953. *BRASSICA PE-TSAL*.

Pe-tsai cabbage.

From Shan-hai-kwan. "(No. 72a.) A long-headed cabbage, late variety. Can be kept all winter in a frost-proof cellar." (*Meyer.*)

17954. *CYDONIA JAPONICA*.

Japanese quince.

From Peking. "(No. 145a.) A very fragrant quince used in China to perfume a room. Grows in south China." (*Meyer.*)

**17955 to 17958.**

From Santiago de las Vegas, Cuba. Received through Prof. C. F. Baker, March 6, 1906.

Seeds, as follows:

**17955.** *BAUHINIA KRUGII*.

"The finest Bauhinia of the West Indies." (*Baker.*)

**17956.** *EUGENIA PUNICIFOLIA*.

"An erect, ornamental shrub with fine flowers and fruit." (*Baker.*)

**17957.** *CANAVALIA* sp.

**Knife bean.**

"A nonedible, brown variety producing a great vine." (*Baker.*)

**17958.** *PACHYRHIZUS ANGULATUS*.

**Yam bean.**

**17959. CLEMATIS** sp.

From Hwai-lai, Chi-li Province, China. Received through Mr. F. N. Meyer, February 23, 1906.

"(No. 135a.) A small clematis covering banks along ditches. Its white seed-down makes it appear like snow in the distance; not ornamental." (*Meyer.*)

**17960. ARACHIS HYPOGAEA.**

**Peanut.**

From Amani, German East Africa. Received through Dr. A. Zimmermann, February 23, 1906.

Peanuts from Mikindani.

**17961. CANNA FLACCIDA.**

**Canna.**

From Oneco, Fla. Received through Reasoner Bros., March 9, 1906.

**17962. MISCANTHUS CONDENSATUS.**

From Yokohama, Japan. Received through Suzuki & Iida, of New York City, March 6, 1906.

**17963. AGROSTIS STOLONIFERA.**

**Creeping bent-grass.**

From New York, N. Y. Received through Henry Nungesser & Co., March 6, 1906.

**17964. VITIS MUNSONIANA.**

**Mustang grape.**

From Elliotts Key, Fla. Received through Dr. John Gifford, March 7, 1906.

**17965 and 17966.**

From Brighton Beach, Wash. Received through Mr. A. B. Leckenby, March 9, 1906.

Plants, as follows:

**17965.** *FATSIA HORRIDA*.

**Devil's-club.**

An araliaceous, densely prickly shrub with palmately lobed leaves and racemed or paniced umbels of small, greenish-white flowers.

**17966.** *LYSICHTITUM CAMTSCHATCENSE*.

**Skunk cabbage.**

A nearly stemless swamp aroid, with large leaves from a thick, horizontal root stock.

**17967. BENINCASA CERIFERA.****Wax-gourd.**

From Manila, P. I. Received through Mr. W. S. Lyon, of the Bureau of Agriculture, March 5, 1906.

"Native name *Condol*. Matures fruit in four months from seed. Grown in Philippine Islands only upon trellises. When sliced and steeped over night in lime water and then boiled in a sugar sirup until it candies, it makes a most delicious glazed fruit." (*Lyon*.) (See No. 2936, Inventory No. 7, for description of this plant.)

**17968 to 17972. BETA VULGARIS.****Sugar beet.**

From Lyons, N. Y. Received through the Lyons Beet Sugar Company, March 1906.

Sugar-beet seed, as follows:

**17968.** *Original Kleinwanzleben.*

Grown by Kleinwanzleben Sugar Company, Kleinwanzleben, Germany.

**17969.** *Schreiber's Specialität.*

Grown by G. Schreiber & Sons, Nordhausen, Germany.

**17970.** *Elite Kleinwanzleben.*

Grown by Dippe Bros., Quedlinberg, Germany.

**17971.** *Kleinwanzleben.*

Grown by F. Heine & Co., Hadmersleben, Germany.

**17972.** *Kleinwanzleben.*

Grown by C. Braune & Co., Bundorf, Germany.

**17973 and 17974. BETA VULGARIS.****Sugar beet.**

From Lehi, Utah. Received through the Utah Sugar Company, March, 1906.

**17973.** *Kleinwanzleben.*

Grown by the Utah Sugar Company, Lehi, Utah.

**17974.** *Kleinwanzleben.*

Grown by the Fremont County Sugar Company, Sugar City, Idaho.

**17975. BETA VULGARIS.****Sugar beet.**

From Caro, Mich. Received through the Peninsula Sugar Refining Company, March 10, 1906.

*Kleinwanzleben.* Grown by Otto Hoerning & Co., Eisleben, Germany.

**17976 to 17980. BETA VULGARIS.****Sugar beet.**

From Owosso, Mich. Received through the Owosso Sugar Company, March 12, 1906.

Sugar beet seed, as follows:

**17976.** *Kleinwanzleben.*

Grown by Henry Mette & Co., Quedlinberg, Germany.

**17977.** *Kleinwanzleben.*

Grown by Rabbethge & Giesecke, Kleinwanzleben; Germany.

**17978.** *Kleinwanzleben.*

Grown by Wohanka & Co., Prague, Bohemia.

**17979.** *Kleinwanzleben.*

Grown by K. W. Kuhn & Co., Maarden, Holland.

**17980.** *Elite Kleinwanzleben.*

Grown by Otto Bruenstedt, Schladen-im-Harz, Germany.

**17981. ASPARAGUS ACUTIFOLIUS.**

From Nice, France. Presented by Dr. A. Robertson-Proschowsky. Received March 12, 1906.

"This is an evergreen plant which is found growing wild here, but never in abundance. It grows both in the woods and on sunny slopes; in some places where it is very dry, receiving no rainfall for two or three years. In such places the stems are short and quite leafy, and it is here only that they sometimes, but rarely, produce seeds. In the shade the plants produce stems several meters in length, climbing either shrubs or trees and hanging down the slopes, where they have a very graceful appearance. Young plants are readily transplanted when the roots are still fibrous, but when they become older and the roots are thick and fleshy it is impossible to transplant them. This asparagus in the wild state is quite a delicacy, and although scarce and sparingly found, the young shoots are eagerly sought for." (*Proschowsky.*)

**17982 and 17983. NICOTIANA spp.**

From Philadelphia, Pa. Received through Henry A. Dreer, Inc., March 5, 1906.

**17982. NICOTIANA SANDERAE.**

(See S. P. I. No. 17246.)

**17983. NICOTIANA SANDERAE hyb.**

(See S. P. I. No. 17247.)

**17984. ANDROPOGON SORGHUM.****Sorghum.**

From Canadian, Tex. Received through Mr. Thomas F. Moody, March 10, 1906.

*Sourless.*

**17985. COLOCASIA sp.****Dasheen.**

From Aguas Buenas, P. R. Received through Mr. A. W. Bowser, March 12, 1906.

Identical with S. P. I. No. 15395.

**17986. COLOCASIA sp.****Taro.**

From Georgetown, S. C. Received through Mr. John Tull, March 12, 1906.

"Roots of the so-called *Yellow Tanier* of South Carolina. These roots were grown by me last year on Cat Island from roots given to me by Mr. Alex. Lucas, of Santee, S. C." (*Tull.*)

**17987. COLOCASIA sp.****Taro.**

From Georgetown, S. C. Received through Mr. John Tull, March 12, 1906.

"Roots of the so-called *White Tanier* of South Carolina. These were grown by me on Cat Island last year from roots given to me by an old negro (John Huggins) who lives near here. He grows a few every year just for his own use, and has grown them from time immemorial." (*Tull.*)

**17988. ARACHIS HYPOGAEA.****Peanut.**

From Yungas Valley, Bolivia. Received through Mr. Arthur L. Jackson, of La Paz, Bolivia, March 12, 1906.

**17989. NICOTIANA TOMENTOSA**

From Hamburg, Germany. Received through Mr. Albert Schenkel, March, 1906.

**17990. CHAMAECYPARIS LAWSONIANA.**

From Sacramento, Cal. Presented by Mr. H. A. Alspach. Received March 1, 1906.

This is a native of California and Oregon, where it grows to a height of 200 feet. It is one of the most beautiful conifers, of which about 60 garden forms exist in European nurseries and collections. (For foreign exchange.)

**17991. SACCHARUM CILIARE.**

From St. Kitts, British West Indies. Presented by Mr. F. R. Shepherd, curator, Botanic Gardens, at the request of Sir Daniel Morris, Commissioner of Agriculture for the West Indies. Received October 27, 1905.

Concerning this plant the following brief notice appeared in the Agricultural News, the fortnightly review of the Imperial Department of Agriculture for the West Indies (Vol. IV, p. 87):

"A number of plants of *Saccharum ciliare* raised from seed received through the Imperial Department of Agriculture from India in May last are growing at the Botanic Station, St. Kitts. These plants, which are now arrowing, appear to withstand drought well, and trials are being made to test their usefulness for fodder purposes. This species may also be suitable for forming ornamental clumps on lawns, similar to pampas grass."

**17992. MEDICAGO SATIVA.****Alfalfa.**

From Province of Valencia, Spain. Received through Hon. R. L. Sprague, United States consul, Gibraltar, Spain, March 2, 1906.

"The most vigorous and best quality of alfalfa grown in the Province of Valencia, producing continuous crops the whole year." (*Sprague*.)

**17993. PHOENIX DACTYLIFERA.****Date.**

From Nefta, Tunis. Presented by Mr. Louis Grech, through Mr. T. H. Kearney. Received November 1, 1905.

*Menakher.*

**17994. TRITICUM VULGARE.****Wheat.**

From Rieti, Italy. Received through Unione Produttori Grano da Seme, March 14, 1906.

*Rieti.*

**17995. GARCINIA MORELLA.****Gamboge.**

From Kingston, Jamaica, British West Indies. Received through Dr. W. Fawcett, director of Public Gardens, March 15, 1906.

Introduced for the purpose of growing stocks upon which to graft the mangosteen.

**17996 to 17998. SECHUM EDULE.****Chayote.**

From Mayaguez, Porto Rico. Received through the Porto Rico Agricultural Experiment Station, February 5 and April 26, 1906.

Fruit of apparently three varieties, as follows:

17996. White.

17998. Large, green.

17997. Small, green.

**17999. TRIFOLIUM INCARNATUM.****Crimson clover.**

From Richmond, Va. Received through T. W. Wood & Sons, March 17, 1906.

*Late White.*

**18000. LOLIUM ITALICUM.****Italian rye-grass.**

From New York City, N. Y. Received through Henry Nungesser & Co., March 17, 1906.

**18001 to 18118. TRIFOLIUM PRATENSE.****Red clover.**

Received through Mr. Charles J. Brand of this Department and distributed by him in connection with his work on life history, seed production, and change of seed. A series of red clovers of different regional origin, being the first generation from seed of the crop of 1903 which was sown in 1904 and harvested in 1905.

**18001 to 18021.**

From Shirley, Ill. Received through Mr. Eugene D. Funk, March, 1906.

**18022 to 18037.**

From Rushville, Ind. Received through Mr. Theodore H. Reed, March, 1906.

**18038 to 18054.**

From Fayetteville, N. Y. Received through Mr. A. T. Armstrong, March, 1906.

**18055 to 18068.**

From Mauston, Wis. Received through Mr. J. B. McNown, March, 1906.

**18069 to 18082.**

From Wapakoneta, Ohio. Received through Mr. John A. Ritchie, March, 1906.

**18083 to 18100.**

From Fargo, N. Dak. Received through Prof. J. H. Shepperd, March, 1906.

**18101 to 18118.**

From Carlton, Ore. Received through Mr. F. J. Canfield, April 21, 1906.

**18119. BETA VULGARIS.****Sugar beet.**

From Aschersleben, Germany. Received through the Owosso Sugar Company, Owosso, Mich., March 17, 1906.

*Jaensch Victrix.* Grown by Mr. Gustav Jaensch.

**18120. PERSEA GRATISSIMA.****Avocado.**

From Bayamon, P. R. Presented by Mr. A. B. Mitchell. Received March 19, 1906.

*Mitchell.* "A very superior variety. Size, large; color of flesh, dark yellow; flavor, excellent. Base, usually slender. Seed, medium to large." (*Barrett.*)

**18121. CUCURBITA PEPO.****Pumpkin.**

From Australia. Presented by Mr. M. Levek, of Washington, D. C. Received March 18, 1906.

Thought by Mr. Levek to be a variety known as *Turk's Crown*.

**18122. RICINUS COMMUNIS.****Castor-oil plant.**

From Santiago de las Vegas, Cuba. Received through Prof. C. F. Baker, March 19, 1906.

A large-seeded variety.



**18123 to 18130.**

From Bathurst, New South Wales. Presented by Prof. R. W. Peacock. Received February 13, 1906.

Samples of various native grass seeds, as follows:

18123.	ERAGROSTIS PILOSA.	18127.	PANICUM FLAVIDUM.
18124.	ELEusine AEGYPTIACA.	18128.	PANICUM PROLUTUM.
18125.	DIPLACHNE FUSCA.	18129.	PANICUM DECOMPOSITUM.
18126.	DIPLACHNE PEACOCKII.	18130.	ANDROPOGON SERICEUS.

**18131 to 18151.**

From Berkeley, Cal. Received through Prof. A. V. Stubenrauch, of the Agricultural Experiment Station, March 6, 1906.

18131.	VICIA NISSOLLIANA.	
18132.	VICIA ATROPURPUREA.	
18133.	VICIA VARIA.	
18134.	VICIA SATIVA OBOVATA.	
18135.	VICIA PANNONICA.	
18136.	VICIA LUTEA.	
18137.	VICIA FABA.	Horse bean.

*Black Spanish.*

18138.	VICIA SATIVA MACROCARPA.	
18139.	VICIA MONANTHOS.	
18140.	VICIA MONANTHOS.	
18141.	VICIA CALCARATA.	
18142.	VICIA FABA.	Horse bean.
18143.	VICIA FABA.	Horse bean.

*Winter.*

18144.	LATHYRUS TINGITANUS UNIFLORUS.
18145.	LATHYRUS TINGITANUS.
18146.	LATHYRUS CLYMENUM.
18147.	LATHYRUS ANNUUS.
18148.	LATHYRUS OCHRUS.
18149.	LATHYRUS ARTICULATUS.
18150.	LENS NIGRICANS.
18151.	TRIGONELLA CORNICULATA.

**18152 to 18155. CHLÉTOCHLOA ITALICA.**

**Millet.**

From Lawrence, Kans. Received through F. Barteldes & Co., March 20, 1906.

18152.	<i>New Siberian.</i>
18153.	<i>Hungarian.</i>
18154.	<i>German.</i>
18155.	<i>Common.</i>

**18156. RICINUS COMMUNIS.**

**Castor-oil plant.**

From Santiago de las Vegas, Cuba. Received through Prof. C. F. Baker, March 20, 1906.

A small-seeded variety.

**18157. PISUM SATIVUM.****Pea.**

From Paris, France. Received through Vilmorin-Andrieux & Co., March 20, 1906.

*Wax-pod.*

**18158 and 18159.**

From Lausanne, Switzerland. Received through Prof. G. Martinet, March 21, 1906.

**18158.** LATHYRUS HETEROPHYLLUS.

**18159.** VICIA VILLOSA GLABRESCENS.

**18160 to 18198. ANDROPOGON SORGHUM.****Sorghum.**

From Berlin, Germany. Presented by the Berlin Botanical Museum. Received February 14, 1906.

A collection of African sorghum seed, as follows:

<b>18160.</b> <i>Amphibolus.</i>	<b>18180.</b> <i>Ovulifer.</i>
<b>18161.</b> <i>Calcareus.</i>	<b>18181.</b> <i>Ovulifer.</i>
<b>18162.</b> <i>Charisianus.</i>	<b>18182.</b> <i>Ovulifer.</i>
<b>18163.</b> <i>Charisianus glabrescens.</i>	<b>18183.</b> <i>Ovulifer.</i>
<b>18164.</b> <i>Charisianus holstii.</i>	<b>18184.</b> <i>Ovulifer.</i>
<b>18165.</b> <i>Colorans.</i>	<b>18185.</b> <i>Ovulifer.</i>
<b>18166.</b> <i>Colorans.</i>	<b>18186.</b> <i>Ovulifer.</i>
<b>18167.</b> <i>Colorans.</i>	<b>18187.</b> <i>Ovulifer.</i>
<b>18168.</b> <i>Elegans.</i>	<b>18188.</b> <i>Ovulifer.</i>
<b>18169.</b> <i>Elegans.</i>	<b>18189.</b> <i>Ovulifer.</i>
<b>18170.</b> <i>Elegans.</i>	<b>18190.</b> <i>Ovulifer.</i>
<b>18171.</b> <i>Inhonestus.</i>	<b>18191.</b> <i>Pendulus.</i>
<b>18172.</b> <i>Kerstingianus typicus.</i>	<b>18192.</b> <i>Roxburghii.</i>
<b>18173.</b> <i>Kerstingianus typicus.</i>	<b>18193.</b> <i>Schumannii.</i>
<b>18174.</b> <i>Kerstingianus sulfureus.</i>	<b>18194.</b> <i>Usaramenis.</i>
<b>18175.</b> <i>Kerstingianus sulfureus.</i>	<b>18195.</b> <i>Ziegleri.</i>
<b>18176.</b> <i>Kerstingianus sulfureus.</i>	<b>18196.</b> <i>Elegans.</i>
<b>18177.</b> <i>Kerstingianus sulfureus.</i>	<b>18197.</b> <i>Ovulifer.</i>
<b>18178.</b> <i>Nitens.</i>	<b>18198.</b> <i>Ovulifer.</i>
<b>18179.</b> <i>Ondongae.</i>	

**18199. ELAEAGNUS hyb.**

From Gotha, Fla. Received through Mr. Henry Nehrling, March 22, 1906.

**18200 and 18201. ZEA MAYS.****Sweet corn.**

From North Pomfret, Vt. Received through Mr. Stephen Hewitt, March 23, 1906.

*Golden Malakhov.* Grown from S. P. I. No. 13256.

**18200.**

Amber-colored ears showing a distinct red striping; originally grown from one ear which was dark colored and very sweet.

**18201.**

Light amber-colored ears; sweet.

**18202. VICIA FULGENS.****Scarlet vetch.**

From Paris, France. Received through Vilmorin-Andrieux & Co., March 23, 1906.

**18203. ANDROPOGON SORGHUM.****Sorghum.**

From Dallas, Tex. Received through the Texas Seed and Floral Company, March 23, 1906.

*Sumac Cane.*

**18204 to 18224. XANTHOSOMA spp.****Yautia.**

From Mayaguez, P. R. Received through the Porto Rico Agricultural Experiment Station, March 24, 1906.

A collection of yautia roots, as follows:

18204. *Rollisa.*18215. *Alocasia Marchallu.*18205. *Punzera.*18216. *Jamaica No. 2.*18206. *Gris Amarilla.*18217. *Jamaica No. 4.*18207. *Jamaica No. 1.*18218. *Jamaica No. 6.*18208. *Jamaica No. 3.*18219. *Islena (Ponce).*18209. *Jamaica No. 5.*18220. *Gengibrilla.*18210. *Dominica.*18221. *Islena (Aponte).*18211. *Blanca.*18222. *Orqueta.*18212. *Prieta.*18223. *Rollisa Ancha.*18213. *Amarilla.*18224. *Jamaica (Trinidad).*18214. *Guayamera.***18225. ASPARAGUS ACUTIFOLIUS.**

From San Giovanni a Teduccio, Italy. Received through Dammann & Co., March 26, 1906.

Roots imported for use in experiments to create a new hybrid asparagus which will resist the asparagus rust.

**18226. HOSACKIA PURSHIANA.****Dakota vetch.**

From Dickinson, Dak. Received through the Dickinson Subexperiment Station, March 26, 1906.

**18227. GLYCINE HISPIDA.****Soy bean.**

From Khabarovsk, East Siberia. Received through Director Gagin of the Khabarovsk Experiment Field, March 26, 1906.

*Tchernia bob.* "A black variety of *Soja hispida*, which is cultivated in several places in Manchuria and Amur land." (Gagin.)

**18228. PUERARIA THUNBERGIANA.****Kudzu.**

From Philadelphia, Pa. Received through H. A. Dreer (Incorporated), March 27, 1906.

(See Nos. 9227 and 9228, Inventory No. 9.)

**18229. AVENA SATIVA.****Oat.**

From Augusta, Ga. Received through the N. L. Willet Drug Company, February 1, 1906.

*Appler Rustproof.* Special selection of seed from No. 17452.

**18230. AVENA SATIVA.****Oat.**

From Richmond, Va. Received through T. W. Wood &amp; Sons, January 27, 1906.

*Burt.* Special selection of seed from No. 17451.**18231. SECHIU M EDULE.****Chayote.**

From New Orleans, La. Received through the J. Steckler Seed Company, March, 1906.

**18232. CUCUMIS MELO.****Winter muskmelon.**

From Ispahan, Persia. Received through Mr. Frank Benton (No. 33), March 27, 1906.

"Seed of a winter muskmelon grown extensively about Ispahan, Persia. It keeps, if put in a cool, airy place, all winter, and may be used at any time. Bears transportation well; many are taken over rough roads on pack animals two to three hundred miles. Oblong, light yellow, netted finely; flesh light yellow, semitransparent or watery; quite juicy; fair quality. Said to succeed best on slightly alkaline soil." (*Be on.*)

**18233. BETA VULGARIS.****Sugar beet.**

From Wellsboro, Ind. Received through the West Michigan Sugar Company, March 27, 1906.

*Knauer's Mungold.***18234 and 18235. AMYGDALUS spp.**

From Quetta, British India. Presented by Lieut. W. L. Maxwell, One Hundred and Twenty-Seventh Baluchistan Light Infantry. Received March 24, 1906.

**18234. AMYGDALUS PERSICA.****Peach.***Quetta.***18235. AMYGDALUS PERSICA LAEVIS.****Nectarine.***Quetta.*

"These seeds were taken from the best trees in Quetta. Quetta is nearly 6,000 feet high; summer temperature, 100° F. in the shade at times; winter temperature known to drop below zero, and severe frost is known to continue for weeks at a time." (*Maxwell.*)

**18236 and 18237. CHENOPODIUM QUINOA.****Quinoa.**

From La Paz, Bolivia. Received through Señor M. V. Ballovian, Ministerio de Colonias y Agricultura, March 24, 1906.

**18236. CHENOPODIUM QUINOA.****Quinoa.***Quinoa amarga* or *Common.***18237. CHENOPODIUM QUINOA.****Quinoa.***Arrocillo* or *Royal.*

(See Nos. 2931, 3073, and 3074, Inventory No. 7.)

**18238 to 18240.**

From Chaman, Baluchistan. Presented by Lieut. W. L. Maxwell, One Hundred and Twenty-Seventh Baluchistan Light Infantry. Received March 29, 1906.

Plants and cuttings, as follows:

**18238. AMYGDALUS COMMUNIS.****Almond.****18239. AMYGDALUS PERSICA.****Peach.****18240. PUNICA GRANATUM.****Pomegranate.**

**18241. VICIA FABA.****Broad bean.**

From Buenos Ayres, Argentina. Presented by Mr. H. B. Vannote, 11 and 13 Vandewater street, New York, N. Y. Received March 26, 1906.

**18242 and 18243. PRUNUS spp.****Cherry.**

From Dreshertown, Pa. Received through Thomas Meehan & Sons, March 31, 1906.

Trees to be used as stocks upon which to bud Japanese flowering cherries, as follows:

**18242. PRUNUS AVIUM.****Mazzard cherry.****18243. PRUNUS MAHALEB.****Mahaleb cherry.****18244. AGAVE RIGIDA SISALANA.****Sisal.**

From Miami, Fla. Collected by Mr. L. H. Dewey, March 8 and 14, 1906. Received March 31, 1906.

Bulbils secured for introduction into Porto Rico.

**18245 and 18246. AVENA SATIVA.****Oat.**

From Örebro, Sweden. Received through C. A. Hagendahl's Son, March 28, 1906.

**18245. White.****18246. Black.****18247. MEDICAGO SATIVA.****Alfalfa.**

From Milwaukee, Wis. Received through the Wernich Seed Company, March 29, 1906.

*Turkestan.*

**18248 to 18255. SOLANUM TUBEROSUM.****Potato.**

From La Paz, Bolivia. Received through Señor M. V. Ballovian, Ministerio de Colonias y Agricultura, March 24, 1906.

**18248. Ymilla.** Raised in La Paz.**18249. Sieha.** Raised at the foot of the Sub-Andine chains.**18250. Phureja.** Raised on the table-lands.**18251. Luqui.** Raised on the table-lands.**18252. Queni.** Raised in La Paz.**18253. Apharu.** Raised on the table-land of Bolivia.**18254. Monda.** Raised on the table-lands.**18255. Khati.** Raised in La Paz.**18256 to 18277.**

From Peking, China. Received at the Plant Introduction Gardens, Chico, Cal., through Mr. F. N. Meyer, February 26 and 27, 1906.

Seeds and cuttings of Chinese plants, the seeds indicated by the letter "a" following the number, as follows:

**18256. JUGLANS REGIA.****Persian walnut.**

From Peking. "(No. 3a.) A very large, hard-shelled variety said to have come from the western mountains, where it gets quite cold." (*Meyer.*)

**18257. JUGLANS REGIA.****Persian walnut.**

From Peking. "(No. 4a.) A hard-shelled, sweet variety said to have come from the mountains 40 miles north of Peking; will probably prove hardy quite far north." (*Meyer.*)

## 18256 to 18277—Continued.

18258. GLYCINE HISPIDA.

Soy bean.

From Pee-san. "(No. 5a.) This soy bean is extensively cultivated in the mountains north of Peking and is highly esteemed for human food; requires but little irrigation, and is well worth trying in the arid West." (*Meyer.*)

18259. GLYCINE HISPIDA.

Soy bean.

From Tschang-ping-tsu. "(No. 6a.) This bean is grown in the northern country as a nitrogen-supplying crop with sorghum, corn, or millet; does not scatter much when ripe, but seems to be late in ripening." (*Meyer.*)

18260. PRUNUS ARMENIACA.

Apricot.

From Peking. "(No. 7a.) The so-called Chinese almond, but it is really a sweet-kerneled apricot. It is considered a fine little nut by the Chinese, who eat them salted after having them soaked in water to get rid of the skin." (*Meyer.*)

18261. PRUNUS ARMENIACA.

Apricot.

From Peking. "(No. 8a.) The same as No. 7a (S. P. I. No. 18260), but inferior in quality; both are probably the same plant. They are said to be a special strain of apricots, being grown only for their seeds." (*Meyer.*)

18262. AMYGDALUS PERSICA.

Peach.

From Peking. "(No. 9a.) Seeds collected from a tree growing in the German Legation grounds at Peking. This tree, which is about 40 feet high, is a most heavy bearer and looks like a remarkably thrifty peach tree. Its leaves are much darker green than those of the cultivated ones. I was told that it is a fine ornamental tree in the spring, being one sheet of rose-colored blossoms." (*Meyer.*)

18263. JUGLANS REGIA.

Persian walnut.

From Tientsin. "(No. 10a.) A small variety bought in Tientsin. May prove to be very hardy, as the nuts are small and hard." (*Meyer.*)

18264. XANTHOCERAS SORBIFOLIA.

From Wei-tsan Mountains. "(No. 11a.) A small ornamental tree belonging to the horse-chestnut family. Is very well fit for a solitary lawn tree in a small garden, as it grows only to a small size and makes a dense head of foliage." (*Meyer.*)

18265. QUERCUS DENTATA.

Oak.

From Ming Tombs, north of Peking. "(No. 12a.) This oak attains a medium size, has very large, dark green leaves, and is well worth growing; looks quite different from other oaks. Collected on the grounds of the Ming Tombs, 30 miles north of Peking, where it gets extremely cold. The trees will probably prove hardy quite far north." (*Meyer.*)

18266. DIOSPYROS LOTUS.

Persimmon.

From Pee-san. "(No. 13a.) A small persimmon used as stock for the seedless one." (*Meyer.*)

18267. CATALPA BUNGEI.

Catalpa.

From Wei-tsan Mountains. "(No. 78.) Young trees of which the parents have grown to a very large size in an old temple garden. This tree is one of the finest flowering trees in the world." (*Meyer.*)

18268. TAMARIX sp.

From Wei-tsan Mountains. "(No. 83.) A very graceful bush, suitable for planting along the water's edge." (*Meyer.*)

18269. POPULUS sp.

Poplar.

From Wei-tsan Mountains. "(No. 84.) This poplar is often found growing in old temple gardens; it has whitish bark and attains a very large size. Probably the same as No. 15 (S. P. I. No. 16915)." (*Meyer.*)



**18256 to 18277—Continued.****18270. JASMINUM NUDIFLORUM.****Jasmine.**

From Wei-tsan Mountains. "(No. 85.) A jasmine with green stems and yellow flowers, adapted for terraces and walls." (*Meyer.*)

**18271. LYCIUM sp.****Matrimony vine.**

From Palitswang. "(No. 86.) A matrimony vine which is trained on one stem with all the small branches drooping down like a weeping tree; is loaded in the fall with red berries." (*Meyer.*)

**18272. PISTACIA CHINENSIS.****Pistache.**

From Wei-tsan Mountains. "(No. 89.) The carpellate form of the Chinese pistache. A rather ornamental, small tree; bears heavy bunches of small, scarlet-purplish-colored berries." (*Meyer.*)

**18273. PISTACIA CHINENSIS.****Pistache.**

From Wei-tsan Mountains. "(No. 90.) The staminate form of the Chinese pistache. A very ornamental tree with graceful, pinnate foliage; grows to very large dimensions." (*Meyer.*)

**18274. POPULUS sp.****Poplar.**

From the mountains near Fangshan. "(No. 134.) A poplar found growing in a ravine; probably a tall-growing variety." (*Meyer.*)

**18275. MORUS ALBA.****Mulberry.**

From the mountains near Fangshan. "(No. 135.) Tall sprouts found growing by the roadside; may be a new kind." (*Meyer.*)

**18276. (Undetermined.)**

From the mountains near Fangshan. "(No. 136.) Cuttings of a semi-climbing, low shrub." (*Meyer.*)

**18277. KOELREUTERIA PANICULATA.****Varnish tree.**

From Wei-tsan Mountains. (No. 137.)

**18278 to 18293.**

From Peking, China. Collected by Mr. F. N. Meyer and sent direct to the Arnold Arboretum, Jamaica Plains, Mass. Received during the winter of 1905-6.

Cuttings of Chinese plants, as follows:

**18278. EUONYMUS sp.**

From Shan-hai-kwan. "(No. 4.) A low-growing shrub with corky wings on its branches; found in semishady situations." (*Meyer.*)

**18279. (Undetermined.)**

From Shan-hai-kwan. "(No. 16.) A low, spreading bush with edible red berries; grows between rocks and in sunny as well as shady situations." (*Meyer.*)

**18280. AMPELOPSIS sp.**

From Shan-hai-kwan. (No. 17.)

**18281. AMPELOPSIS sp.**

From Chang-li. (No. 18.)

**18282. PRUNUS sp.**

From Shan-hai-kwan. (No. 51.)

**18283. SPIRAEA sp.**

From Shan-hai-kwan. "(No. 20.) A small, shrubby *Spiraea* resembling *S. thunbergii*; found growing between rocks and exposed places." (*Meyer.*)

**18284. AMPELOPSIS sp.**

From Chang-li. (No. 21.)

**18278 to 18293—Continued.****18285.** *ACTINIDIA* sp. (?)

From Hwai-jou. (No. 22.)

**18286.** *EUONYMUS* sp.From Hwai-jou. "(No. 24.) A very striking *Euonymus* with red leaf tops, resembling *E. bungeanus* but bearing a much larger quantity of fruit." (*Meyer.*)**18287 to 18289.** (Undetermined.)

From Shan-hai-kwan. (Nos. 52 to 54.) Cuttings of unidentified shrubs.

**18290.** *PRUNUS ARMENIACA.***Apricot.**From Shan-hai-kwan. "(No. 55.) A wild apricot growing in a ravine near an old temple." (*Meyer.*)**18291.** *SPIRAEA* sp. (?)From Shan-hai-kwan. "(No. 56.) Found growing between the rocks in the mountains near Shan-hai-kwan." (*Meyer.*)**18292.** *AMPELOPSIS* sp.From Chang-li. "(No. 99.) A vine growing on rocky places in the mountains; has deeply lobed leaves and white berries." (*Meyer.*)**18293.** *AMPELOPSIS* sp.From Chang-li. "(No. 100.) A vine resembling *A. vetchii*, but with both entire and three-lobed leaves; assumes beautiful fall colors and though small and apparently tender is well worth trying." (*Meyer.*)**18294 to 18296.**

From Peradeniya, Ceylon. Received through J. C. Willis, director of Royal Botanic Gardens, February 26, 1906.

**18294.** *CROTALARIA* sp.

Imported for experimental purposes in connection with cover crops for tea and coffee plantations.

**18295 and 18296.** *ARACHIS HYPOGAEA.***Peanut.****18295.** *Mauritius.***18296.** (Unnamed.)**18297 and 18298. IPOMOEA BATATAS.****Sweet potato.**

From Kingston, Jamaica, British West Indies. Presented by Dr. William Fawcett, director of Hope Gardens. Received March 29, 1906.

"Tubers of the two varieties of white-skinned potato which thrive best here." (*Fawcett.*)**18297.** *John Barnett.***18298.** *Law.***18299. HUMULUS LUPULUS.****Hop.**

From North Yakima, Wash. Presented by Mr. H. B. Scudder. Received February, 1906.

*Semsch.* Seeds produced on vine of S. P. I. No. 5787, in 1905. "Probably these seeds were results of pollination with pollen from the male plants of the common Yakima hop. They should be planted for selection of the best seedlings." (*Fairchild.*)**18300 and 18301. CANNA spp.****Canna.**

From Palermo, Sicily. Presented by Prof. Dr. A. Borzi, director of the Botanic Gardens. Received March 30, 1906.

**18300.** *CANNA INDICA.***18301.** *CANNA IRIDIFLORA.*

**18302. ZEA MAYS.****Corn.**

From Callao, Peru. Presented by Mr. C. B. Cisneros. Received March 12, 1906.

**18303 to 18309.**

From Teheran, Persia. Presented by Mr. John Tyler, United States vice-consul-general. Received March 23, 1906.

Seeds, as follows:

**18303. CUCUMIS MELO.****Muskmelon.**

A white-skinned variety.

**18304. CUCUMIS MELO.****Muskmelon.**

*Kharbuzzah*. "This is thought to be a corruption of *khar poozah*, *khar* meaning ass and *poozah* snout or nose, possibly on account of its oblong shape. The highest quality of this kind is produced at a village 16 miles north of Ispahan, called Gurg Ab (Wolf Water), being irrigated with water impregnated with alkaline elements. The flavor is agreeably sweet and pleasant, and approved by almost every individual taste. When ripe, however, on account of the delicacy of the texture of the skin and the crispness of the inner substance it can not be transported without damage from the place where it is grown. It is said that the vibration caused to the ground by a horse cantering within a few yards will split it up, and that to pierce it with a pin is sufficient to make a circle of cracks. Such as are brought to Teheran, and those taken to towns nearer the area of growth, are cut before they are ripe and consequently lose much of their delicacy of flavor. The principal supply for the Teheran market is produced from 12 to 30 miles away, and the fruits are of various qualities, according to the soil and water supply. None are grown in the immediate vicinity of the city. The color of the *Kharbuzzah* in the best qualities is a pale yellow, but there are some nearly white or of a cream color." (Tyler.)

**18305. CUCUMIS MELO.****Muskmelon.**

*Tilabe* (Desired). "In shape a spheroid, of a greenish tinge both inside and out, although some are inclined to yellow. When good, their flavor is pleasant and rather sweet. If, however, they are deficient in sweetness, sugar may be added with advantage. In this they differ from the *Kharbuzzah*, which is not improved by sugar; in fact, many people eat it with pepper and salt. Their average weight is from 4 to 5 pounds, and I do not think that I have ever seen one that exceeded a batman (6½ pounds)." (Tyler.)

**18306. CUCUMIS MELO.****Muskmelon.**

*Garmack* (Little heat). "This variety resembles in shape, size, and flavor, though not so sweet, the *Tilabe*. It is less delicate in texture, and if of a poor quality is not much better than a Swede turnip; but as it is the first to come to market it finds considerable favor. If, however, it lacks sweetness its flavor coalesces very well with pounded sugar." (Tyler.)

**18307. CUCUMIS SATIVUS.****Cucumber.**

*Persian Khear*. "A smooth-skinned variety about 5 or 6 inches in length, and the larger 6 or 7 inches in circumference. They are crisp in texture and pleasant to the taste. I think they are a little sweeter than ours, and consequently preferred by the natives. These plants, both melons and cucumbers, are planted on the margin of a trench with a bank about 4 feet wide when quite dry for the plant to lie upon, for if the fruit comes in touch with the irrigation water it brings on the rot." (Tyler.)

**18308. CITRULLUS VULGARIS.****Watermelon.**

*Andarānah*. "Probably a corruption of *Hind-daneh*, meaning Indian grain or seed, partially confirming the common belief that it was originally brought from India, although it has been extensively cultivated in Persia for centuries. In some districts of eastern Persia it attains an immense size, weighing upward of 100 pounds, but in Teheran it rarely exceeds a third of that weight. Being very cheap in price, it is looked upon as a generous addition to the diet of the poor." (Tyler.)

**18303 to 18309—Continued.****18309. ANDROPOGON SORGHUM.****Sorghum.**

(No data.)

**18310. PHASEOLUS MAX.****Mung bean.**

From Barbados, British West Indies. Presented by Hon. D. Morris, Commissioner of Agriculture for the West Indies. Received April 6, 1906.

*Woolly Pyrol.***18311 to 18315. ARACHIS HYPOGAEA.****Peanut.**

From Peradeniya, Ceylon. Presented by Mr. J. C. Willis, director of Royal Botanic Gardens. Received April 6, 1906.

**18311. Tanjore.****18314. Barbados.****18312. Mauritius.****18315. Brazil.****18313. Pondicherry.****18316 to 18318. DIOSCOREA spp.****Yam.**

From Mayaguez, P. R. Presented by the Agricultural Experiment Station. Received April 4, 1906.

**18316. DIOSCOREA ACULEATA GUINEA. 18318. DIOSCOREA TRIFIDA.****18317. DIOSCOREA TRIFIDA.****A purple variety.****A white variety.****18319 and 18320.**

From Manila, P. I. Presented by Mr. William S. Lyon, horticulturist, Bureau of Agriculture. Received April 3, 1906.

**18319. XANTHOSOMA sp.****Yautia.**

"Locally known as *Gabe de China*. Chief distinction seems to be in the size of the main rootstock, which grows very large. Grown alongside of introduced *Xanthosoma*, it made in eight months a main rootstock as large and half again, weighing, when green, nearly 2 pounds." (*Lyon.*)

**18320. COLOCASIA sp.****Most common *Gabe* of the Philippine Islands.****18321. CANAVALIA ENSIFORMIS.****Sword bean.**

From Mayaguez, P. R. Presented by the Agricultural Experiment Station. Received March 27, 1906.

**18322 and 18323. SACCHARUM OFFICINARUM.****Sugar cane.**

From Cienfuegos, Cuba. Presented by Dr. Robert M. Grey, Harvard Botanical Station, Central Soledad. Received March 27, 1906.

Samples of each of the following hand-fertilized sugar cane seed:

**18322. *Crystallina* × *Crystallina*.****18323. *Crystallina* (female) × *Java seedling No. 51* (male).****18324. LILIUM PHILIPPINENSE.****Lily.**

From Thetford, Vt. Received through Mr. George S. Worcester, April 10, 1906.

**18325. PELTANDRA SAGITTAEFOLIA.****Wampee.**

From Cat Island, South Carolina. Received through Mr. John Tull, April 9, 1906.

"The roots are extensively eaten by the colored natives." (*Tull.*)

**18326. ANDROPOGON SORGHUM.****Sorghum.**

From Bombay Presidency, India. Presented by Prof. G. A. Gamble, economic botanist, Ganeshkhind Botanical Gardens, Kirkee, Poona, India. Received April 9, 1906.

"Seed of a dwarf variety of sorghum cultivated in the Panch Mahals District of the Bombay Presidency. It is locally known by the name of *Rātādia* and grows to the height of  $2\frac{1}{2}$  to  $3\frac{1}{2}$  feet." (*Gamble.*)

**18327. POA TRIVIALIS.****Rough-stalked meadow grass.**

From Paris, France. Received through Vilmorin-Andrieux & Co., April 7, 1906.

**18328. CUCURBITA MELANOSPERMA.****Ecuador melon.**

From Quito, Ecuador. Presented by Mr. S. Ordonez M. Received April 9, 1906.

"This plant is native to this country, where it is cultivated quite extensively and used for food for man as well as for stock. Although a perennial, it is more commonly treated as an annual and planted with corn. It is also planted along walls and at the foot of trees, upon which it will climb and produce melons continuously. The plant will not endure severe frost, and grows where the temperature ranges from  $14^{\circ}$  to  $25^{\circ}$  C.

"When used as human food the melon, as long as it is so soft that a finger nail can be driven into the shell, is simply cooked and made into different dishes with butter and salt; when ripe it is eaten cooked, with milk added at the table. For stock it is used ripe and simply cut to pieces; when cooked, however, it is far better, especially for stock and milch cows.

"The melons average 20 to 30 pounds each. The pulp is white and contains sugar and some starch. When completely ripe the shell is very hard and the seeds black, giving the melons much the appearance of a watermelon. The ripe melons can easily be kept a year in a dry and ventilated place, this condition making them valuable for winter feed. There are two varieties—the white-shelled and the green and white striped. These seeds are of the latter variety." (*S. Ordonez M.*)

**18329 to 18331.**

From Manila, P. I. Presented by Mr. William S. Lyon, horticulturist, Bureau of Agriculture. Received April 3, 1906.

**18329. CANAVALLA ENSIFORMIS.****Knife bean.**

"'Marautong' of the Pampangans. The young and tender pods make an excellent snap bean, and the green as well as the fully ripe seeds are a good substitute for Lima or Haricot beans. This variety, while prostrate and rambling, is distinctively nontwining. It makes pods in two months and matures seeds in four months from planting." (*Lyon.*)

**18330. CROTALARIA JUNCSEA.****Sunn hemp.**

"This requires rich soil, abundant moisture, and close planting to produce long fiber. If planted wide and kept pinched it becomes very floriferous and an ornamental acquisition to the garden." (*Lyon.*)

**18331. PACHYRHIZUS ANGULATUS.****Yam bean.****18332. BETA VULGARIS.****Sugar beet.**

From Raunitz, near Wettin, Germany. Received from Mr. G. Wesche, through Mr. E. Nettwall, of Prague, Bohemia, April 11, 1906.

*Wesche's Ertragreichste, or Richest in Yield.*



**18333. EUTREMA WASABI.****Japanese horse-radish.**

From Yokohama, Japan. Received through the Yokohama Nursery Company, April 11, 1906.

(For description see No. 9891, Inventory No. 10.)

**18334 to 18337. ARACHIS HYPOGAEA.****Peanut.**

From Suffolk, Va. Received through the Suffolk Peanut Company, April 13, 1906.

A collection of peanuts obtained for foreign exchange, as follows:

**18334.** *Virginia.***18336.** *Carolina.***18335.** *Bunch.***18337.** *Spanish.***18338. VICIA SATIVA.****Common vetch.**

From Svalöf, Sweden. Received through Allmänna Svenska Utsädesaktiebolaget, April 13, 1906.

**18339. HEDYSARUM SIBIRICUM.**

From Groningen, Holland. Presented by the Jardin Botanique de Groningen. Received April 12, 1906.

**18340. VICIA FABA.****Broad bean.**

From London, England. Presented by Mr. S. E. Wynne. Received April 14, 1906.

*Harlington White Windsor.* "To grow: Plant in good, strong, rich soil in January or February for main crop, and from February to May for successive crops. Plant in rows 2 feet to 30 inches apart; when the plants are about 30 inches high cut off the tops; they need no staking. Gather the pods when young, when the seeds are not over three-fourths inch in length.

"To cook: Use plenty of water, adding a heaped tablespoonful of salt to each half gallon. Shell the beans, put them into boiling water, and boil rapidly until tender—about fifteen minutes for very young beans. Drain them thoroughly, and serve quite separately, but with a sauceboat of parsley sauce as an accompaniment. The beans are excellent with boiled bacon, but they must be cooked alone, never with the meat. If very young they should be cooked fifteen minutes; if older, twenty to twenty-five minutes, but do not overcook them. Half a peck of the pods should yield a good dish. In England they are in season in July and August.

"Average cost, 6s. per peck." (*Wynne.*)

**18341. CASTANEA SATIVA.****Chestnut.**

From Yokohama, Japan. Received through the Yokohama Nursery Company, April 14, 1906.

**18342. SOLANUM JAMESII.**

From Grand Island, Nebr. Presented by Mr. E. Corbin. Received April 17, 1906.

(See No. 10473, Inventory No. 11.)

**18343 to 18345. ANDROPOGON SORGHUM.**

From Lawrence, Kans. Received through F. Barteldes & Co., April 17, 1906.

**18343.** *Jerusalem corn sorghum.***18345.** *Yellow milo.***18344.** *Red kafir corn.*



**18346 to 18357.**

From Gatton, Queensland, Australia. Presented by Prof. John Mahon, principal of the Queensland Agricultural College. Received April 18, 1906.

18346. ANDROPOGON SERICEUS.	18352. ERAGROSTIS BROWNII.
18347. ANDROPOGON INTERMEDIUS.	18353. ERIOCHLOA PUNCTATA.
18348. ANTHISTIRIA CILIATA.	18354. ISCHAEMUM PECTINATUM.
18349. CHLORIS DIVARICATA.	18355. PANICUM DECOMPOSITUM.
18350. CHLORIS TRUNCATA.	18356. PANICUM DIVARICATISSIMUM.
18351. CHRYSOPOGON PARVIFLORA.	18357. ANDROPOGON AUSTRALIS.

**18358 to 18381.**

From Hanatote, Ugo, Japan. Presented by Mr. S. Nakagawa, Riku-u Agricultural Experiment Station. Received April 12, 1906.

Seeds, as follows:

18358. BRACHYPODIUM JAPONICUM.	18371. LOTUS CORNICULATUS JAPONICUS.
18359. BRACHYPODIUM JAPONICUM.	18372. MISCANTHUS SINENSIS.
18360. BROMUS UNIOLOIDES.	18373. PASPALUM THUNBERGII.
18361. CASSIA MIMOSOIDES.	18374. PENNisetum JAPONICUM.
18362. COIX LACRYMA-JOBI.	18375. CHAETOCHLOA GLAUCA.
18363. DESMODIUM GARDNERI.	18376. CHAETOCHLOA PACHYSTACHYA.
18364. ELEusine CORACANA.	18377. CHAETOCHLOA VIRIDIS.
18365. ERAGROSTIS FERRUGINEA.	18378. CHAETOCHLOA VIRIDIS GIGANTEA.
18366. ERIOCHLOA VILLOSA.	18379. SPODIOPOGON COTULIFER.
18367. HOLCUS LANATUS.	18380. VICIA AMOENA LANATA.
18368. INDIGOFEA TINCTORIA.	18381. VICIA UNIJUGA.
18369. LESPEDEZA BUERGERI.	
18370. LESPEDEZA STRIATA.	

**18382. MACADAMIA TERNIFOLIA.****Queensland nut.**

From Brisbane, Queensland, Australia. Presented by Prof. F. Manson Bailey. Received April 18, 1906.

"The Queensland nut is well worthy of cultivation in Ceylon, not only as an ornamental or windbelt tree, but also for its dainty product. That it is suited to our climate may be judged from the growth of the tree at Peradeniya, where, having been introduced in 1868, it is now 40 to 50 feet high, with a spreading habit. It is indigenous to the northeastern parts of Australia, and is commonly known there as the 'Queensland nut'. It has also been referred to as the 'Australian hazelnut,' while the late Baron von Mueller described it as 'the nut tree of subtropical eastern Australia.' The tree is at first of a rather slow-growing habit, but begins to bear fruit when 6 or 7 years old, increasing in fertility until it reaches the age of 15 years.

"A writer in the Sydney Mail some time ago stated that the tree fruited freely from the time it was 8 years old, bearing at the age of 13 1,200 nuts, with which every branch was laden. Mr. W. J. Allen, in the Agricultural Gazette of New South Wales for October of last year, draws attention to the importance of growing the Queensland nut for the market. 'One farmer,' he states, 'has over an acre of these nuts, which are doing well with him and which prove themselves very profitable, finding ready sale for them at from 6d. to 7d. per pound. The nuts are retailed in the Sydney fruit shops at 1s. per pound, and are very well liked when they become known. At present the supply in our own state can not be anything like equal to the demand, and it seems to me that if these nuts were produced in quantities we should be able to find a ready sale for large supplies in Great Britain and America.' Mr. Allen describes the nut as 'one of the best-flavored on the market,' and he would recommend all those who have not tasted them to buy a few and try them.

**18382—Continued.**

"The nuts are borne on spikes 4 to 7 inches long, each being of the size and shape of large marbles, about three-fourths of an inch in diameter. These have an agreeable flavor, which according to some tastes is richer than that of the hazelnut. Their chief objection is, perhaps, their very hard shell, which requires extra strong nutcrackers to break.

"The tree belongs to the order Proteaceae, to which belongs also the well-known Grevillea or 'Silky Oak.' It is evergreen, with a low, branching habit; thrives best in good damp soil, and is propagated by seed. The leaves are in whorls of 3 (ternate) or 4, as the name indicates, and the flowers are creamy white, in racemes 4 to 6 inches in length, and sweet-scented." (*H. F. Macmillan, in Tropical Agriculturist, Feb., 1906.*)

**18383 to 18387.**

From Singapore, Straits Settlements. Presented by Prof. Henry N. Ridley, director, Botanical Gardens. Received April 17, 1906.

A collection of aroids, as follows:

**18383.** ALOCASIA INDICA.

**18386.** AMORPHOPHALLUS SATIVUS.

**18384.** ALOCASIA INDICA.

**18387.** AMORPHOPHALLUS CAMPANULATUS.

**18385.** XANTHOSOMA VIOLACEUM.

**18388 and 18389. ANDROPOGON SORGHUM.**

**Sorghum.**

From Bassorah, Persian Gulf. Received through Mr. Herbert W. Poulter, April 16, 1906.

**18388.**

*Tappo Dari.* "The best quality obtainable; is planted around Bagdad and Amara. The word *Tappo*, specifying a better quality, is Turkish and represents the name of the branch of the court which looks after the collecting of the taxes on the ground. It appears that the *Dari* coming from lands held by the court was better looked after, and so a better quality obtained; hence the name *Tappo*." (*Poulter.*)

**18389.**

*Common Dari.* Planted along the Euphrates River.

**18390. CYPERUS ESCULENTUS.**

**Chufa.**

From Valencia, Spain. Received through Hon. Henry A. Johnson, United States consul, April 19, 1906.

**18391. MEDICAGO SATIVA.**

**Alfalfa.**

From Logan, Mont. Received through Mr. Martin Jacoby, April 18, 1906.

*Turkestan alfalfa* grown in 1905 from No. 9455.

**18392. VITIS VINIFERA.**

**Grape.**

From Salonica, Turkey. Presented by Mr. J. Henry House. Received April 2, 1906.

Cuttings of the long finger grape *V. alandora*; much prized for shipping to northern countries from Salonica.

**18393. ANTIDESMA BUNIUS.**

From Manila, P. I. Presented by Mr. W. S. Lyon, horticulturist of the Manila Bureau of Agriculture. Received April 18, 1906.

"*Bignay* of the Malays. A medium-sized, evergreen tree; highly ornamental in or out of fruit. Fruit (edible) in racemes about the size and color of the large, red *Versailles currant*." (*Lyon.*)

**18394. TRIFOLIUM PRATENSE.****Red clover.**

From Riga, Russia. Received through Mr. F. Lassman, April 20, 1906.

**18395. CUCURBITA MELANOSPERMA.****Ecuador melon.**From Quito, Ecuador. Presented by Mr. S. Ordonez M. Received April 21, 1906.  
White-shelled variety. (For description see No. 18328.)**18396. PISUM ARVENSE.****Field pea.**

From Ispahan, Persia. Received through Mr. Frank Benton, April 2, 1906.

"No. 34. A clover-like plant grown as a forage crop about Ispahan and known as *Changervath*. It is said to be an annual and seems to be used as a winter cover for land, the same as crimson clover in the United States. The plants are quite green in January after numerous frosts." (*Benton.*)**18397. CUCURBITA PEPO.****Pumpkin.**

From Shiraz, Persia. Received through Mr. Frank Benton, April 2, 1906.

"No. 35. A small, long, salmon-colored squash; enlarged at blossom end. The natives praise the quality, but as prepared for me it was watery and of poor flavor." (*Benton.*)**18398. CUCURBITA MAXIMA.****Squash.**

From Shiraz, Persia. Received through Mr. Frank Benton, April 2, 1906.

"No. 36. A medium-sized, oval, slate-colored, hard-skinned squash of indifferent quality on sale in the markets of Shiraz, in February, where seed was taken from a freshly cut specimen. Might be useful for stock. The region about Shiraz is dry and depends upon irrigation; elevation about 5,000 feet." (*Benton.*)**18399. FRAXINUS ORNUS.****Ash.**

From Nizamabad, central Persia. Received through Mr. Frank Benton, April 2, 1906.

"No. 37. Seeds taken from a cultivated ornamental tree growing near a pool of water at Nizamabad." (*Benton.*)**18400. CARICA PAPAYA.****Papaw.**

From Karachi, province of Sind, India. Received through Mr. Frank Benton, April 16, 1906.

"No. 39. Seed of a tree 20 to 30 feet tall, with large leaves, bearing fruits the size of a small muskmelon, greenish yellow outside when ripe; orange-yellow within. Grows commonly in the warmer parts of India." (*Benton.*)**18401. BRASSICA RAPA.****Turnip.**

From Quetta, Baluchistan. Received through Mr. Frank Benton, April 16, 1906.

"No. 45.) The roots, which grow to considerable size, are flat in form and are bright crimson outside. The flesh is white, firm, and of a good quality." (*Benton.*)**18402. IPOMOEA BATATAS.****Sweet potato.**

From Quetta, Baluchistan. Received through Mr. Frank Benton, April 16, 1906.

"No. 46.) Large sweet potatoes; red outside and quite sweet. Purchased in the market at Quetta and probably grown in the lowlands of the Indus." (*Benton.*)

**18403 to 18407.**

From Quetta, Baluchistan. Received through Mr. Frank Benton, April 16, 1906.  
Seeds, as follows:

<b>18403.</b> DAUCUS CAROTA.	<b>Carrot.</b>
(No. 47.)	
<b>18404.</b> PINUS GERARDIANA.	<b>Pine.</b>
(No. 48.)	
<b>18405.</b> CUCURBITA MAXIMA.	<b>Squash.</b>
(No. 49.)	
<b>18406.</b> CUCURBITA MAXIMA.	<b>Squash.</b>
(No. 50.)	
<b>18407.</b> VITIS VINIFERA.	<b>Grape.</b>
(No. 51.)	

**18408. SECHIU EDULE. Chayote.**

From Mayaguez, P. R. Received through the Agricultural Experiment Station,  
April 26, 1906.

Fruits of a variety of chayote which is covered with spines.

**18409 and 18410. SACCHARUM OFFICINARUM. Sugar cane.**

From Bridgetown, Barbados. Presented by Hon. Sir Daniel Morris, K. C. M. G.,  
Commissioner of Agriculture for the British West Indies. Received April 23,  
1906.

<b>18409.</b> <i>Collyms seedling.</i>	<b>18410.</b> <i>Sealy seedling.</i>
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**18411. ANDROPOGON SORGHUM. Sorghum.**

From Roswell, N. Mex. Received through Mr. G. S. Nutter, April 19, 1906.

*African sumac cane.*

**18412. TRIFOLIUM PRATENSE. Red clover.**

From Baltimore, Md. Received through W. G. Scarlett & Co., April 23, 1906.

*Austrian.*

**18413 to 18421.**

From New York, N. Y. Received through Henry Nungesser & Co., April 23,  
1906.

A collection of seeds, as follows:

<b>18413.</b> AGROSTIS CANINA.	<b>Rhode Island bent-grass.</b>
<b>18414.</b> ALOPECURUS PRATENSIS.	<b>Meadow foxtail.</b>
<b>18415.</b> ARRHENATHERUM ELATIUS.	<b>Tall meadow oat-grass.</b>
<b>18416.</b> BROMUS ERECTUS.	
<b>18417.</b> FESTUCA ELATIOR.	<b>Tall fescue.</b>
<b>18418.</b> MEDICAGO SATIVA.	<b>Alfalfa.</b>
<i>Provence.</i>	
<b>18419.</b> POA COMPRESSA.	<b>Canada bluegrass.</b>
<b>18420.</b> TRIFOLIUM INCARNATUM.	<b>Crimson clover.</b>
<b>18421.</b> TRIFOLIUM MEDIUM.	<b>Mammoth clover.</b>

**18422. VICIA VILLOSA.****Hairy vetch.**

From New York, N. Y. Received through Henry Nungesser & Co., April 23, 1906.

**18423. ECHINACEA HELIANTHI.**

From Riverton, N. J. Received through Henry A. Dreer (Incorporated), Philadelphia, Pa., April 23, 1906.

Plants obtained for hybridizing experiments.

**18424. CANNA sp.****Canna.**

From Guam. Presented by Mr. H. L. W. Costenoble, superintendent of the Guam Agricultural Experiment Station. Received April 23, 1906.

"Seed of the native Guam canna, which grows to a height of 8 feet and produces blossoms uninterruptedly." (*Costenoble.*)

**18425. MEDICAGO SATIVA.****Alfalfa.**

From Marblehead, Mass. Received through J. J. H. Gregory & Son, April 23, 1906.

*Turkentan.*

**18426 and 18427.**

From Juarez, Chihuahua, Mexico. Presented by Mr. Elmer Stearns, of the Agricultural College and Station. Received April 25, 1906.

**18426. ZEA MAYS.****Corn.**

*Flint corn from Budapest.*

**18427. (Undetermined.)****"Tree pea."****18428. PASSIFLORA sp.**

From Tecalitlan, Jalisco, Mexico. Presented by Mr. C. V. Mead. Received April 20, 1906.

**18429 to 18458.**

From Shanghai, China. Received through Mr. F. N. Meyer, April 28, 1906.

A miscellaneous collection of plants and seeds, the seeds being indicated by the letter "a" following the numbers, as follows:

**18429. JUNCUS sp.****Rush.**

From Soochow. "(No. 521.) A variety of matting rush collected near Soochow. They must be grown in muddy soil with 2 to 3 inches of standing water." (*Meyer.*)

**18430. JUNCUS sp.****Rush.**

From Soochow. "(No. 523.) The rush from which pith wicks for the Chinese oil lamps are made." (*Meyer.*)

**18431. (Undetermined.)****"Kaba."**

From Soochow. "(No. 525.) A new vegetable, said to be very delicious; must be grown in muddy soil with 3 to 4 inches of water." (*Meyer.*)

**18432. GYMNOCLADUS CHINENSIS.**

From Hanchau. "(No. 202a.) A tall-growing tree with naked branches, bearing heavy pods, which are used by the Chinese as a substitute for soap. Chinese name *Sau Ache*. The tree may be of use as an ornamental tree in the Southern States." (*Meyer.*)

**18433. GYMNOCLADUS CHINENSIS.**

From Hanchau. "(No. 203a.) A small-podded soap tree; otherwise the same description applies to it as to No. 18432." (*Meyer.*)



**18429 to 18458—Continued.****18434. VICIA FABA.****Broad bean.**

From Shanghai. "(No. 204a.) A variety of broad bean grown as a winter crop on rice fields." (*Meyer.*)

**18435. CORCHORUS CAPSULARIS.****Jute.**

From Shanghai. "(No. 210a.) Seeds of the so-called *Mo-bi* fiber." (*Meyer.*)

**18436. SAPINDUS UTILIS.****Soapberry.**

From near Hanchau. (No. 211a.)

**18437. RAPHANUS SATIVUS.****Radish.**

From Hanchau. "(No. 212a.) A small variety of red radish with round, elongated form. Seeds were obtained through Mr. F. D. Cloud, acting consul at Hanchau." (*Meyer.*)

**18438. ASTRAGALUS sp.**

From Shanghai. (No. 213a.)

**18439. CITRUS MEDICA.****Lemon.**

From Hanchau. "(No. 214a.) A large Chinese lemon, or possibly wild pomelo. A citrus fruit which serves the purpose here of our lemon. The fruit is very large, 4 inches long by  $2\frac{1}{2}$  to 3 inches wide; has loose skin which is full of a particularly pungent oil. The trees come true to seed and grow tall; branches are rather bare and full of large spines; can stand severe frosts and heavy snowfalls and may be of use as a stock plant for the northern limit of our citrus belt." (*Meyer.*)

**18440. CITRUS DECUMANA.****Pomelo.**

From Shanghai. "(No. 215a.) Seeds of a large, loose-skinned, loosely segmented pomelo, which is eaten here like the orange and is not bitter at all. A fruit well worth introducing." (*Meyer.*)

**18441. BRASSICA sp.**

From Tang-hse near Hanchau, Che-kiang Province. "(No. 216a.) The plant producing these seeds, out of which a good edible oil is made, is only grown as a winter crop on rice fields, and the crop is ripe before the rice needs the space. The young tops of the plant are eaten boiled as a vegetable." (*Meyer.*)

**18442. BRASSICA spp.**

From Shanghai. (No. 217a.) Apparently a mixture of at least two varieties of Brassica.

**18443. PANICUM MILIACEUM.****Broom-corn millet.**

From Shanghai. (No. 218a.)

**18444. PHASEOLUS CALCARATUS.****Bean.**

From Shanghai. "(No. 236a.) A small, reddish bean used as food. Chinese name *Mu tsa*." (*Meyer.*)

**18445. PERILLA OCYMOIDES.****Perilla.**

From Shanghai. (No. 237a.)

**18446. NELUMBO NUCIFERA ALBA.****White lotus.**

From Shanghai. "(No. 238a.) The seeds are highly esteemed by the Chinese as delicatessen. They boil them and roll them in powdered sugar, and they taste fine. Our confectioners might try to make the public acquainted with them." (*Meyer.*)

**18447. NELUMBO NUCIFERA ROSEA.****Red lotus.**

From Shanghai. "(No. 239a.) Much cheaper than the white variety; otherwise the same description applies to it." (*Meyer.*)

**18448. DOLICHOS LABLAB.****Hyacinth bean.**

From Shanghai. (No. 244a.)



**18429 to 18458—Continued.**

- 18449. RAPHANUS SATIVUS.** **Radish.**  
 From Shanghai. "(No. 245a.) Seed of a white variety." (*Meyer.*)
- 18450. ABUTILON AVICENNAE.** **China jute.**  
 From Shanghai. "(No. 246a.) Seed of a fiber-producing plant called *pa-mu.*" (*Meyer.*)
- 18451. CANNABIS SATIVA.** **Hemp.**  
 From Shanghai. (No. 247a.)
- 18452. BRASSICA sp.**  
 From Shanghai. (No. 248a.)
- 18453. CORCHORUS sp.**  
 From Shanghai. "(No. 249a.) Seed of a fiber-producing plant called '*Ching-mu-tse.*' The fiber is used in weaving rush mats." (*Meyer.*)
- 18454. HORDEUM VULGARE.** **Barley.**  
 From Shanghai. (No. 250a.)
- 18455. PISUM SATIVUM.** **Pea.**  
 From Shanghai. (No. 251a.)
- 18456. (Undetermined.)**  
 From Shanghai. (No. 252a.) A mixture of vetches and peas.
- 18457. TRITICUM VULGARE.** **Wheat.**  
 From Tan-yang. (No. 253a.)
- 18458. HORDEUM VULGARE NUDUM.** **Barley.**  
 From Tan-yang. "(No. 254a.) Seed of a hull-less barley obtained at Tan-yang near Chinkiang, south of the Yangtze River." (*Meyer.*)

**18459 and 18460. GLYCINE HISPIDA.** **Soy bean.**

From West Branch, Mich. Received through Mr. Edward E. Evans, May 2, 1906.

- 18459. Green.** **18460. Early black.**

**18461. TRIFOLIUM sp.** **Clover.**

From Pretoria, Transvaal. Presented by Prof. J. Eurtl Davy, agrostologist and botanist of the Transvaal Department of Agriculture. Received April 30, 1906.

"*Lespedeza* clover seed from British East Africa, where it grows at an altitude of about 6,000 to 7,000 feet; it also appears to grow well when planted in a dry country." (*Davy.*)

**18462. CUCUMIS MELO.** **Muskmelon.**

From Cartagena, Colombia. Presented by Mr. Wm. R. Maxon, of San Jose, Costa Rica. Received April 28, 1906.

Seed of the native Cartagena muskmelon.

**18463. ANDROPOGON CYMBARIUS.**

From Central Madagascar. Presented by M. Derlandlee, of the Madagascar Department of Agriculture, Tananarivo. Received April 27, 1906.

"A good forage plant when young, and the best known of the central Madagascar species. Known by the natives as *Verotsanjy.*" (*Derlandlee.*)

**18464 to 18467. ASPARAGUS spp.****Asparagus.**

From Palermo, Sicily. Presented by Prof. Dr. A. Borzi, of the Royal Botanical Gardens. Received May 2, 1906.

Asparagus roots and seeds, as follows:

**18464. ASPARAGUS ACUTIFOLIUS.**

(Roots.)

**18466. ASPARAGUS MEDEOLOIDES.**

(Seeds.)

**18465. ASPARAGUS ACUTIFOLIUS.**

(Seeds.)

**18467. ASPARAGUS MEDEOLOIDES.**

(Roots.)

**18468. CITRUS TOROSA.**

From Manila, P. I. Presented by Mr. William S. Lyon, horticulturist, Bureau of Agriculture. Received May 2, 1906.

**18469. LEVISTICUM OFFICINALE.****Lovage.**

From Holland, Mich. Received through Mr. William Kremers, May 3, 1906.

Plants advertised by the Greening Nursery Company, of Monroe, Mich., as the "Silver King Hardy Celery." Obtained for determination.

**18470. MEDICAGO MEDIA.****Sand lucern.**

From Milwaukee, Wis. Received through the Wernich Seed Company, May 3, 1906.

**18471. HUMULUS LUPULUS.****Hop.**

From Stevens Point, Wis. Received through Mr. A. N. Mueller, April 28, 1906.  
*Bohemian.*

**18472 and 18473. VIGNA UNGUICULATA.****Cowpea.**

From Augusta, Ga. Received through the N. L. Willet Seed Company, May 4, 1906.

**18472. Black-eye.**

**18473. Unknown.**

**18474. HARPEPHYLLUM CAFFRUM.****Kafir plum.**

From Cape Town, South Africa. Presented by Mr. C. P. Lounsbury, of the Department of Agriculture. Received May 10, 1906.

Seed collected in the Eastern Province of Cape Colony. (For description see No. 9616.)

**18475. ABROMA AUGUSTA.****Anabó.**

From Manila, P. I. Presented by Mr. W. S. Lyon, horticulturist, Bureau of Agriculture. Received May 11, 1906.

"A perennial shrub producing the Anabó bast fiber." (*Lyon.*)

**18476. SAPINDUS UTILIS.****Soapberry.**

From Algiers, Algeria. Received through Mr. James Johnston, United States consul, April 30, 1906.

"A native of South China, cultivated in Algeria, where it comes into bearing in eight or ten years. The tree prefers dry, rocky soil, and has been known to yield \$10 to \$20 worth of berries every year. These contain 38 per cent saponin, an alkaline principle which makes them useful for cleaning purposes. In eastern countries the fruit was much used before the introduction of soap and is still preferred for washing the hair and cleansing delicate fabrics like silk." (*Barclay.*)

**18477. PANICUM MILLIACEUM.****Broom-corn millet.**

From New York, N. Y. Received through J. M. Thorburn & Co., May 2, 1906.  
*White French.*

**18478. ASPARAGUS SCABER.**

From Frescati, near Stockholm, Sweden. Presented by Prof. Veit Wittrock.  
 Received May 1, 1906.

Seeds obtained for hybridizing work conducted by Mr. G. W. Oliver, of this Department.

**18479. GARCINIA MANGOSTANA.****Mangosteen.**

From Buitenzorg, Java. Presented by Doctor Treub, director of the Botanical Gardens. Received May 5, 1906.

**18480 to 18498.**

From Fürstenalps, near Khur, Switzerland. Presented by Dr. F. G. Stebler, director of the Seed Control Station, Zurich. Received May 4, 1906.

A collection of hardy grass and forage plant seeds raised in Doctor Stebler's alpine garden in the Fürstenalps, near Khur, at an altitude of 5,700 feet. "These are all hardy strains which have been raised for some years in this garden and thoroughly acclimated to a short, cold growing season. That these forms are extremely hardy has been frequently proved by planting commercial seed of the same kind in these gardens, where it is invariably killed out for the most part during the first season." (Stebler.)

18480. *POTERIUM DODECANDRUM.*18490. *FESTUCA PUMILA.*18481. *FESTUCA VIOLACEA.*18491. *BROMUS INERMIS.*18482. *POA ALPINA.*18492. *DACTYLIS GLOMERATA.*18483. *FESTUCA HALLERI.*18493. *OXYTROPIS CAMPESTRIS.*18484. *ALOPECURUS PRATENSIS.*18494. *PHACA FRIGIDA.*18485. *ARRHENATHERUM ELATIUS.*18495. *OXYTROPIS CAMPESTRIS.*18486. *PHLEUM MICHELII.*18496. *HEDYSARUM OBSCURUM.*18487. *FESTUCA PRATENSIS.*18497. *TRIFOLIUM CAESPITOSUM.*18488. *POTERIUM OFFICINALE.*18498. *TRIFOLIUM ALPINUM.*18489. *LIGUSTICUM MUTELLINA.***18499. PINUS EDULIS.****Nut pine.**

From New Mexico. Received through Mr. H. B. Beck, Austin, Tex., May 1, 1906.

For exchange.

**18500. CEREUS sp.**

From Brownsville, Tex. Received through Mr. O. W. Barrett, May 4, 1906.

**18501 to 18504. ANDROPOGON SORGHUM.****Sorghum.**

From Curaçao, Dutch West Indies. Presented by Mr. I. Wesleyn, Superintendent of Agriculture. Received May 8, 1906.

18501. *Doerah.*18503. *Santa Martha.*18502. *Kabees largoe.*18504. *Common type.*

**18505. CHAETOCHLOA ITALICA.****Korean millet.**

From Yokohama, Japan. Received through the Yokohama Nursery Company, May 7, 1906.

*Paytupsal.*

**18506. TRIGONELLA FOENUM-GRÆCUM.****Fenugreek.**

From Kohat, Northwest Frontier Province, India. Received through Mr. Frank Benton (No. 70), April 30, 1906.

**18507. CUCUMIS MELO.****Muskmelon.**

From Lahore, India. Received through Mr. Frank Benton, April 30, 1906.

"(No. 76.) Seed from a freshly cut melon purchased in the market at Lahore, India, in March, 1906. Melon small, round; yellow, with green marking; netted. Had a strong but rather fragrant odor, which is difficult to indicate, but reminded one of musk." (*Benton.*)

**18508. ACACIA FARNESIANA.****Popinac.**

From Kohat, Northwest Province, India. Received through Mr. Frank Benton (No. 73), April 30, 1906.

(See No. 3349, Inventory No. 7, and No. 3528, Inventory No. 8.)

**18509. ALBIZZIA LEBBEK.****Siris tree.**

From Dera Ismail, Northwest Province, India. Received through Mr. Frank Benton (No. 74), April 30, 1906.

**18510 and 18511. TRIFOLIUM PRATENSE.****Red clover.**

From Riga, Russia. Received through Mr. Heinrich Goegginger, May 9, 1906.

18510. *Ufa.*

18511. *Jeletz.*

**18512 to 18517. ELEUSINE CORACANA.****Ragi.**

From Bangalore, South India. Presented by F. Fletcher, esq., Deputy Director of Agriculture, Bombay Presidency. Received April 27, 1906.

A collection of ragi:

18512. *Konanakombina.*

18515. *Gidda.*

18513. *Janumuddina.*

18516. *Sannakari.*

18514. *Balepatte.*

18517. *Gundutanekari.*

**18518. ANDROPOGON SORGHUM.****Sorghum.**

From Manchuria. Received through the Yokohama Nursery Company, May 9, 1906.

"*Kaulien* sorghum of Manchuria, which forms the staple produce of that country and which has been made famous in the last year. It grows 8 to 10 feet high; the stalks and grain were indispensable for all concerned." (*Yokohama Nursery Company.*)

**18519 to 18522. VIGNA UNGUICULATA.****Cowpea.**

From Richmond, Va. Received through T. W. Wood & Sons, May 9, 1906.

18519. *Clay.*

18521. *Whippoorwill.*

18520. *Red Ripper.*

18522. *New Era.*

**18523 and 18524. ARACHIS HYPOGAEA.****Peanut.**

From Chepauk, Madras Presidency, South India. Presented by Mr. C. A. Barber, government botanist. Received May 9, 1906.

**18523.** *Country groundnut.* (C. A. B. No. 3153.)

**18524.** *Local Mauritius groundnut.* (C. A. B. No. 3154.)

**18525 to 18529. MUSA SAPIENTUM.****Banana.**

From Manila, P. I. Presented by Mr. W. S. Lyon, horticulturist, Bureau of Agriculture. Received May 11, 1906.

**18525.** *Saba.*

**18528.** *Matabia.*

**18526.** *Butuhan.*

**18529.** *Latundan.*

**18527.** *Lacatan.*

**18530. RAPHIDOPHORA MERRILLII.**

From Manila, P. I. Presented by Mr. W. S. Lyon, horticulturist, Bureau of Agriculture. Received May 11, 1906.

**18531 to 18534. ZEA MAYS.****Corn.**

From Juarez, Chihuahua, Mexico. Presented by Mr. Elmer Stearns. Received May 10, 1906.

Four varieties of dent corn.

**18531.** *Maiz blanco* (white corn).

**18533.** *Temporal.*

**18532.** *Jaraleno.*

**18534.** *El Coahuileno.*

**18535. ACTINIDIA CHINENSIS.****Yang tau.**

From Kuling, Kinkiang, Kiangsi, China. Presented by Rev. Hugh W. White. Received May 15, 1905. (See S. P. I. No. 11629, Inventory No. 11.)

"The plant grows wild here, and is not known in the United States; indeed, I have seen it nowhere else in China. We find it a delicious fruit with excellent medicinal effect on the digestion. The place is about the latitude of Galveston, but it is on a mountain 3,500 feet high and has a climate not unlike Virginia or North Carolina. In winter there is an abundance of snow and ice. The subsoil is a poor, stony, red soil, but is covered with a few inches of black wood earth. There is much rainfall. The plant grows like a grape, and the fruit is single, between the size of a hickory nut and a walnut, with a russet-looking green skin and a consistency much like the green fig. If it can be cultivated it will make a valuable fruit." (White.)

**18536 and 18537. CHENOPodium QUINOA.****Quinoa.**

From La Paz, Bolivia. Presented by Mr. Arthur L. Jackson, of the Andes Trading Company. Received May 19, 1906.

**18536.**

*Canana.* A dark-seeded variety of poor quality.

**18537.**

*Common.* A white-seeded variety most commonly grown.

"I find that there are three kinds of quinoa commonly grown here, though one is rather rare and hard to get. I am sending you samples of two varieties in this mail. The third variety is the *Quinoa Real* (or *Royal Quinoa*), which is a much taller plant. Quinoa here is principally used by the Indians. They make various kinds of foods and a drink out of it. The latter is called *Chicha* and when fermented is quite intoxicating. *Chicha* is also made out of other ingredients, such as peanuts. Quinoa is also much used as rice is used in soups, and the Indians make a dish out of it which looks like a sort of watery mush or hominy, which is not bad to eat. They also grind it up on a stone and make a kind of Indian bread, like coarse Gra-

**18536 and 18537—Continued.**

ham bread, which is good and much more nutritious, or so they claim, than corn or meal bread. I have been told that quinoa does not grow well at a less altitude than about 8,000 feet." (*Jackson.*)

**18538. LILIUM LONGIFLORUM EXIMIUM.****Easter lily.**

From Washington, D. C. Numbered May 23, 1906.

Plants grown from seed propagated in the Department greenhouse.

**18539. CARISSA ARDUINA.****Amatungulu.**

From Cape Town, South Africa. Presented by the Corporation of the City of Cape Town Public Gardens. Received May 21, 1906.

(See No. 9612, Inventory No. 10; and Nos. 13239 and 13967, Inventory No. 11.)

**18540 to 18542. HORDEUM spp.****Barley.**

From Svalöf, Sweden. Received through Dr. N. H. Nilsson, of the Swedish Seed Breeding Institute, May 24, 1906.

Pedigreed brewing barleys produced by selection and each variety said to be 100 per cent pure seed. (See Nos. 10583, 10585, and 10586, Inventory No. 11, for description.)

**18540. HORDEUM DISTICHUM NUTANS.***Hannchen.***18541. HORDEUM DISTICHUM ERECTUM.***Primus.***18542. HORDEUM DISTICHUM NUTANS.***Prinsess.***18543 to 18545. SOLANUM MELONGENA.****Eggplant.**

From Cairo, Egypt. Presented by Mr. George P. Foaden, of the Khedivial Agricultural Society. Received May 26, 1906.

**18543. A BLACK-FRUITED VARIETY.****18544. A WHITE-FRUITED VARIETY.****18545. A ROUND, VIOLET-FRUITED VARIETY.****18546 to 18548.**

From Toledo, Ohio. Received through S. W. Flower & Co., May 26, 1906.

**18546. TRIFOLIUM PRATENSE.****Red clover.***Mammoth.***18547. TRIFOLIUM HYBRIDUM.****Alsike.****18548. PHLEUM PRATENSE.****Timothy.****18549. ACACIA sp.****Acacia.**

From Jammu, Kashmir. Received through Mr. Frank Benton, May 29, 1906.

"An *Acacia* which grows wild on very poor, dry, and stony soil in southern Kashmir. It is used as a hedge plant. Single specimens standing alone sometimes attain a diameter of 2 feet at base of trunk and 30 to 40 feet in height. Covered in April with a profusion of ornamental white, tassel-like blossoms, which are quite freely visited by bees and yield a fine quality of honey." (*Benton.*)

**18550. CITRUS AUSTRALASICA.****Finger lime.**

From Wellington Point, near Brisbane, Queensland, Australia. Presented by Mr. James Pink. Received May 29, 1906.

(See No. 14993, Inventory No. 11.)



**18551 to 18556. TRIFOLIUM PRATENSE.****Red clover.**

From Oakland, Nebr. Grown on the ranch of Mr. John P. Young from seed planted in 1905 and resown at same place in the spring of 1906.

A collection of red clover seed used in the plant life history experiments being conducted by Mr. C. J. Brand, of this Department.

18551. Missouri seed. (No. 6.)  
 18552. Commercial seed. (No. 9.)  
 18553. Nebraska seed. (No. 11.)  
 18554. Courland (Russia) seed. (No. 18.)  
 18555. Wisconsin seed. (No. 19.)  
 18556. Pennsylvania seed. (No. 21.)

**18557 to 18560. ELEUSINE CORACANA.****Ragi.**

From Bangalore, South India. Presented by Mr. F. Fletcher, Deputy Director of Agriculture, Bombay Presidency. Received May 31, 1906.

18557. *Dodda.* 18559. *Majjige.*  
 18558. *Madayangiri.* 18560. *Hasarukambi.*

**18561 to 18626.**

From China. Received through Mr. F. N. Meyer, at the Plant Introduction Garden, Chico, Cal., May 18, 1906.

Seeds and cuttings of Chinese plants, the seeds being indicated by the letter "a" following the numbers, as follows:

- |                                   |                               |
|-----------------------------------|-------------------------------|
| 18561. MORUS ALBA.                | Mulberry.                     |
| From Tang-hsi. (No. 140.)         |                               |
| 18562. MORUS ALBA.                | Mulberry.                     |
| From Shanghai. (No. 514.)         |                               |
| 18563. MORUS ALBA.                | Mulberry.                     |
| From Tang-hsi. (No. 520.)         |                               |
| 18564. PITTOSPORUM TOBIRA.        |                               |
| From Shanghai. (No. 200a.)        |                               |
| 18565. ZIZYPHUS SATIVA.           | Jujube.                       |
| From Peking. (No. 201a.)          |                               |
| 18566. EUONYMUS JAPONICUS.        | 18570. SMILAX sp.             |
| From Hankow. (No. 141.)           | From Tang-hsi. (No. 146.)     |
| 18567. EUONYMUS sp.               | 18571. (Undetermined.)        |
| From Tang-hsi. (No. 142.)         | From Tang-hsi. (No. 147.)     |
| 18568. ELAEAGNUS sp.              | 18572. DAPHNE sp.             |
| From Hankow. (No. 143.)           | (No. 148.)                    |
| 18569. ALTINGIA CHINENSIS.        | 18573. CHIMONANTHUS FRAGRANS. |
| From Hankow. (No. 145.)           | From Hankow. (No. 503.)       |
| 18574. HIBISCUS SYRIACUS.         | Rose of Sharon.               |
| From Hankow. (No. 505.) Cuttings. |                               |
| 18575. HIBISCUS SYRIACUS.         | Rose of Sharon.               |
| From Hankow. (No. 192a.) Seeds.   |                               |

**18561 to 18626—Continued.**

- 18576.** *ROSA RUGOSA.* **Rose.**  
From Shanghai. (No. 506.)
- 18577.** *JUNIPERUS CHINENSIS.* **Chinese juniper.**  
From Shan-hai-kwan. (No. 166a.)
- 18578.** *ACER MONO.* **Maple.**  
From Wei-tsan Mountains, near Peking. (No. 169a.) Seeds sent under No. 67a, S. P. I. No. 17898.
- 18579.** *GLEDITSIA* sp.  
From Wei-tsan Mountains, near Peking. (No. 174a.)
- 18580.** *HIBISCUS MANIHOT.*  
From Peking. "(No. 180a.) A perennial *Althaea* or a *Hibiscus* with very large, bright yellow flowers. Brought from southern China to Peking by Dr. N. S. Hopkins, from whose son I obtained the seeds." (*Meyer.*)
- 18581.** *LYCIUM* sp. **Matrimony vine.**  
From Palitswang. "(No. 182a.) A matrimony vine which is trained on one stem, with small branches drooping down like a weeping tree. Cuttings sent under No. 86, S. P. I. No. 18271." (*Meyer.*)
- 18582.** *RHAMNUS* sp.  
From Tchang-ping-tcho. (No. 184a.)
- 18583.** *VIBURNUM ODORATISSIMUM.*  
From Shanghai. (No. 191a.)
- 18584.** *ACTINIDIA CHINENSIS.* **Yangtaw.**  
From Hankow. "(No. 194a.) Obtained from Mr. F. J. Brown, of Hankow, who received the seeds from Ichang. Mr. Brown says it is a vine bearing nice edible fruits, something like large gooseberries, with rough skin." (*Meyer.*)
- 18585.** *PRUNUS* sp. **Plum.**  
From Tang-hsi. (No. 144.)
- 18586.** *PRUNUS* sp. **Plum.**  
From Shanghai. (No. 509.)
- 18587.** *PRUNUS* sp. **Cherry.**  
From Tang-hsi. (No. 519.)
- 18588.** *AMYGDALUS PERSICA.* **Peach.**  
From Shanghai. (No. 501.)
- 18589.** *AMYGDALUS PERSICA.* **Peach.**  
From Shanghai. (No. 502.)
- 18590.** *AMYGDALUS PERSICA.* **Peach.**  
From Shanghai. (No. 508.)
- 18591.** *AMYGDALUS PERSICA.* **Peach.**  
From Shanghai. (No. 510.)
- 18592.** *AMYGDALUS PERSICA.* **Peach.**  
From Shanghai. (No. 511.)
- 18593.** *AMYGDALUS PERSICA.* **Peach.**  
From Shanghai. (No. 512.)
- 18594.** *AMYGDALUS PERSICA.* **Peach.**  
From Shanghai. (No. 513.)

## 18561 to 18626—Continued.

18595. *AMYGDALUS DAVIDIANA* (?).

From Tientsin. (No. 168a.)

18596. *DIOSPYROS KAKI*.

Persimmon.

From Shanghai. "(Nos. 504 and 516.) Said to be a seedless persimmon of medium size." (*Meyer.*)18597. *DIOSPYROS KAKI*.

Persimmon.

From Tang-hsi. "(No. 517.) Said to be a large, seedless persimmon of very sweet taste." (*Meyer.*)18598. *DIOSPYROS* sp.

Persimmon.

From Tang-hsi. "(No. 518.) A persimmon growing wild in different places and used as a stock for the larger seedless ones. Is an entirely different species from the one used in northern China; has a smooth, white bark." (*Meyer.*)18599. *DIOSPYROS* sp.

Persimmon.

From Chang-li. "(No. 161a.) Seed of the wild persimmon used as stock for the large seedless varieties, and the fruits, too, are used in a semidried state, being a poor people's fruit." (*Meyer.*)18600. *MALUS MALUS*.

Apple.

From Shanghai. (No. 507.)

18601. *CYDONIA JAPONICA*.

Japanese quince.

From Peking. (No. 173a.)

18602. *VITIS* sp.

Grape.

From Hankow. "(No. 515.) A purple grape, bearing medium-sized bunches; said to have been introduced by the station missionaries. If so, it might be a fine grape for the South Atlantic States, as the climate in Hankow is very similar to that of the Southern States." (*Meyer.*)18603. *JUGLANS REGIA*.

Persian walnut.

From Chang-li. "(No. 162a.) A very large, paper-shell walnut, the largest one to be had. Owner was not willing to show the tree, so could not obtain scions." (*Meyer.*)18604. *JUGLANS REGIA*.

Persian walnut.

From Chang-li. "(No. 163a.) A sample of large, well-formed nuts, of which scions were sent under No. 48, S. P. I. No. 17747." (*Meyer.*)18605. *PISTACIA CHINENSIS*.

Pistache.

From Wei-tsan Mountains near Peking. (No. 170a.) The same as No. 63a, S. P. I. No. 19391.

18606. *BRASSICA PE-TSAI*.

Pe-tsai cabbage.

From Hankow. (No. 193a.)

18607. *SESAMUM INDICUM*.

Sesame.

From Shanghai. (No. 189a.) *Black.*18608. *MEDICAGO* sp.

From Peking. (No. 183a.)

18609. (Undetermined.)

From Shan-hai-kwan. (No. 181a.)

18610. *ANDROPOGON SORGHUM*.

Sorghum.

From Shan-hai-kwan. "(No. 153a.) A white-grained variety of sorghum grown on rather alkaline land." (*Meyer.*)

**18561 to 18626—Continued.**

**18611. ANDROPOGON SORGHUM.** **Sorghum.**  
From Shan-hai-kwan. "(No. 154a.) A light brown colored variety of sorghum grown on rather alkaline land." (Meyer.)

**18612. ANDROPOGON SORGHUM.** **Sorghum.**  
From Shan-hai-kwan. "(No. 155a.) A dark brown colored variety of sorghum grown on rather alkaline land." (Meyer.)

**18613. ANDROPOGON SORGHUM.** **Sorghum.**  
From Peking. "(No. 172a.) White seeded. Given to me by Mr. J. T. Headlands, of the Methodist Mission, Peking. This is the drooping variety used to make brooms from." (Meyer.)

**18614. ANDROPOGON SORGHUM.** **Sorghum.**  
From Peking. (No. 172a.) Brown seeded. (For description see No. 18613.)

**18615. ORYZA SATIVA.** **Rice.**  
From Shan-hai-kwan. "(No. 156a.) An upland rice grown sparsely around here; seems to succeed on rather alkaline land. Should be hardy as far as New York or in Illinois. Probably the same as No. 40a (S. P. I. No. 17915), but is from a different locality." (Meyer.)

**18616. ORYZA SATIVA.** **Rice.**  
From Chang-li. "(No. 157a.) An upland rice growing on rather moist land." (Meyer.)

**18617. VIGNA UNGUICULATA.** **Cowpea.**  
From Shan-hai-kwan. "(No. 158a.) A brown and white spotted bean." (Meyer.)

**18618. PHASEOLUS ANGULARIS.** **Adzuki bean.**  
From Shanghai. (No. 187a.)

**18619. GLYCINE HISPIDA.** **Soy bean.**  
From Shanghai. "(No. 188a.) A very large variety of yellow soy bean." (Meyer.)

**18620. PANICUM MILLACEUM.** **Broom-corn millet.**  
From Shan-hai-kwan. (No. 159a.)

**18621. CHAETOCLOA ITALICA.** **Millet.**  
From Shan-hai-kwan. (No. 160a.)

**18622. CHAETOCLOA ITALICA.** **Millet.**  
From Shan-hai-kwan. (No. 165a.)

**18623. GOSSYPIUM sp.** **Cotton.**  
From Chang-li. (No. 164a.)

**18624. SAPIUM SEBIFERUM.** **Tallow tree.**  
From Shanghai. (No. 190a.)

**18625. ANDROPOGON SORGHUM.** **Sorghum.**  
From Kung-ki-tschang. (No. 171a.) Red seeded.

**18626. ANDROPOGON SORGHUM.** **Sorghum.**  
From Kung-ki-tschang. (No. 171a.) White seeded.

**18627 and 18628. MEDICAGO SATIVA. Alfalfa.**

From Bassorah, Arabia. Received from Mr. Herbert W. Poulter, through Mr. David Fairchild, June 12, 1906.

*Arabian alfalfa or Jet.*

**18627.** Seed from irrigated plants.

**18628.** Seed from unirrigated plants.

**18629. MEDICAGO SATIVA. Alfalfa.**

From Buffalo, N. Y. Received through the Harvey Seed Company, June 13, 1906.

Canadian grown alfalfa.

**18630. PHOENIX DACTYLIFERA. Date.**

From Morocco. Received through McCaig, Gilchrist & Co., Glasgow, Scotland, May 28, 1906.

*Tafilalt.* "Groves of this date occur in the oases of the region of Tafilalt, and this is supposed to be the largest variety grown there. It is in any case that variety which is most largely exported from Morocco, especially to the English market." (Fairchild.)

**18631. IPOMOEA BATATAS. Sweet potato.**

From Paoli, Ind. Presented by Braxtan Brothers. Received June 1, 1906.

This variety is of a peculiar and unusual shape, resembling a muskmelon. "Raised from a sweet potato plant and bought by us in a lot of sweet potatoes last December and kept since lying around the store with no care whatever as to its preservation, while our sweet potatoes rotted right along." (Braxtan.)

**18632. CANNABIS SATIVA. Hemp.**

From Shinmintong District, Manchuria. Received through the Yokohama Nursery Company, Yokohama, Japan, May 29, 1906.

"Manchurian hemp seeds produced in the district of Shinmintong, some 200 miles southwest of Kirin Province." (Yokohama Nursery Company.)

**18633. ANDROPOGON SORGHUM. Sorghum.**

From Turks Island, West Indies. Presented by Mr. J. A. Howells, United States consul. Received June 4, 1906.

"Guinea corn, the principal crop on this island for grain and fodder." (Howells.)

**18634. XANTHOSOMA sp. Yautia.**

From Chiapas, southern Mexico. Presented by Mr. Lawrence Harmon, of Chicago, Ill. Received April 26, 1906. Additional roots were received June 14, 1906.

Roots of a semiwild yautia found growing wild in Chiapas; said to be eaten by the natives, but not cultivated by them.

"These were shipped from the city of San Juan Bautista, Tabasco, Mexico, and it is supposed that they were brought into that city by the peons, who gathered them in that immediate vicinity. It is further understood that there is no systematic attempt made to cultivate them, and that they practically grow wild under varying circumstances, which might in some measure account for variations found in them." (Harmon.)

**18635. PISTACIA CABULICA (?)**

From Chaman, British India. Presented by Lieut. W. L. Maxwell, One Hundred and Twenty-Seventh Baluchistan Light Infantry. Received June 4, 1906.

"These wild nuts are much eaten by the Pathans around here. With regard to planting them, the following information may be useful: The Pathans say that a new tree only grows where one of the hill partridges eats a nut and passes it through in its excreta on to suitable ground. I asked the forest officer in Quetta if there could be any truth in this extraordinary statement. He told me that he had several trees growing in the Quetta plantations, and that all had been grown from seed so treated. The reason presumably is that the oil, in which these nuts are very rich, must first be extracted from the seeds. I heard from a cultivator here that if the seeds were well rubbed between the hands until all the oil was extracted, satisfactory results were obtained from planting them. The seeds ripen in August." (*Maxwell.*)

**18636. PISTACIA VERA.****Pistache.**

From Viernyi, Semiryetchensk Province, Turkestan. Presented by Mr. E. Valneff, through Mr. E. A. Bessey, of the Subtropical Laboratory, Miami, Fla. Received June 4, 1906.

"Pistache seeds from north Persia, the best that we know." (*Valneff.*)

**18637. PISTACIA INTEGERRIMA.****Zebra wood.**

From Khost, India. Presented by Mr. Philip Parker, of the Indian Irrigation Service, through Mr. J. S. Davis, executive engineer, Bannu, Kuram Valley Irrigation Project. Received June 4, 1906.

"This is the famous zebra wood of Kakra, India, which grows to be a large tree 40 feet or more high, with a trunk in diameter from 2½ to 3 feet, or even as much as 4½ feet. It grows on the warm slopes of the Himalaya Mountains in northern India, usually at an altitude of from 1,200 to 8,000 feet. The wood is very hard and close grained, brown in color, and beautifully mottled with yellow and dark veins, whence the name 'zebra wood.'

"Stewart and Brandis, in their 'Forest Flora of Northwest and Central India,' say: 'The heartwood of mature trees is the best and most handsome wood of the north-west Himalaya for carving, furniture, and all kinds of ornamental work.'

"According to Mr. Bolton, settlement officer at Dehra Ishmail Kahn, this species is difficult to cultivate, 'as it is necessary for the seed to pass through the intestines of a bird before it can germinate.'

"Mr. Parker writes as follows: 'I gave one seed to a bird (fowl) that was to be killed the next day and told my cook to give me the seed when drawing the bird. I have just noticed that the seed, after being put in water, has begun to germinate, so evidently the Indian fowl is good enough.'

"This species is very little known, but it is of some promise as an ornamental and even perhaps as a timber tree in some parts of the southwest." (*Swingle.*)

**18638. AGAVE RIGIDA SISALANA.****Sisal.**

From Paramaribo, Surinam. Presented by Dr. C. J. J. Van Hall, Director of Agriculture for the Dutch West Indies. Received at the Porto Rico Agricultural Experiment Station, Mayaguez, P. R., in May, 1906.

"Parent plants are believed to be direct descendants of plants in the Trinidad Botanical Gardens which were brought from Yucatan, Mexico." (*Barrett.*)

**18639 and 18640. ONOBRYSCHIS ONOBRYSCHIS.****Sainfoin.**

From Paris, France. Received through Vilmorin-Andrieux & Co., June 4, 1904.

**18639.** Double.

**18640.** Common.



**18641 to 18651. CYAMOPSIS TETRAGONOLOBA.****Guar.**

From Surat, India. Presented by Mr. F. Fletcher, Deputy Director of Agriculture, Bombay Presidency. Received June 4, 1906.

Nadiad varieties:

**18641.**

*Sotia.* The seed of this variety is principally used as cattle food. It is also sown in beds of ginger, turmeric, etc., to serve as shade plants to young shoots.

**18642.**

*Wakardia.* The pods of this variety are used as a green vegetable.

**18643.**

*Telia.* This is also sown for vegetable purposes, but it is considered superior to *Wakardia* on account of its being more smooth.

**18644.**

*Pardeshi.* Used as a vegetable.

Surat varieties:

**18645.**

*Talabda.* Seed used as cattle food.

**18646.**

*Sotia.* Chiefly used as a vegetable; but in the case of valuable garden crops, such as ginger, turmeric, suran, etc., it serves a double purpose, viz, as a shade plant and as green manure.

**18647.**

*Makhania.* Used only as a vegetable.

Dhulia varieties:

**18648.**

*Botkya.* A short-podded variety used as a vegetable.

**18649.**

*Telia.* A long-podded variety used as a vegetable; cooks better than the *Botkya*.

Dharwar varieties:

**18650.**

*Turai chavali.* Used as a vegetable.

**18651.**

*Chole chavali.* Used as a vegetable.

**18652 to 18661. DIOSCOREA spp.****Yam.**

From Mayaguez, P. R. Received at the Subtropical Laboratory and Garden, Miami, Fla., in May, 1906.

A collection of yams, as follows:

**18652.** DIOSCOREA TRIFIDA.

*Negro or Yampee (ex Jamaica).*

**18653.** DIOSCOREA TRIFIDA.

*Mapuey Blanco.* White roots.

**18654.** DIOSCOREA TRIFIDA.

*Mapuey Colorado.* Purple roots.

**18655.** DIOSCOREA PENTAPHYLLA (?).

(Ex Hawaii.)

**18652 to 18661—Continued.****18656.** DIOSCOREA BULBIFERA.*Gunda.* Large irregular-shaped axillary bulbils.**18657.** DIOSCOREA ALATA (?).*Barbados Table* (ex Jamaica).**18658.** DIOSCOREA ALATA (?).*White Lisbon* (ex Jamaica).**18659.** DIOSCOREA ACULEATA.*Lucia* (ex Jamaica).**18660.** DIOSCOREA ACULEATA.*Guinea.* Best yam in Porto Rico from cultural standpoint.**18661.** DIOSCOREA ACULEATA (?).*Congo.* Yellow root.**18662. ASPARAGUS sp.**

From Peking, China. Received through Mr. F. N. Meyer, June 4, 1906.

"Berry taken from a plant growing in the Temple of Heaven grounds in Peking, September 2, 1905." (*Meyer.*)**18663 and 18664.**

From Darmstadt, Germany. Received through Mr. Conrad Appel, June 4, 1906.

**18663.** POA TRIVIALIS.**Rough-stalked meadow grass.****18664.** MEDICAGO SATIVA.**Alfalfa.***Provence.***18665. PINUS INSULARIS.****Benguet pine.**From Manila, P. I. Presented by Capt. George P. Ahern, Director of Forestry.  
Received June 4, 1906.

Seed obtained from Benguet Province.

**18666. HORDEUM DISTICHUM NUTANS.****Barley.**From Brunn, Austria. Presented by Prof. J. Vanha. Received in March, 1906.  
*Hanna.***18667 to 18673.**

From Cape Town, South Africa. Presented by the director of the Cape Town Public Gardens. Received June 2, 1906.

**18667.** ABERIA CAFFRA.**Kei-apple.****18668.** ASPARAGUS CRISPUS.**18669.** ASPARAGUS SARMENTOSUS.**18670.** ASPARAGUS SPRENGERI.**18671.** CARISSA ARDUINA.**Amatungulu.****18672.** DIOSMA CRENATA.**Buchu.****18673.** OPUNTIA sp.**Prickly pear.****18674. VICIA SATIVA.****Common vetch.**

From Portland, Oreg. Received through the Portland Seed Company, June 7, 1906.

**18675 and 18676. ARACHIS HYPOGAEA.****Peanut.**

From Muanza, German East Africa. Presented by Prof. Dr. A. Zimmermann, Amani. Received June 8, 1906.

**18675.** A variety with red skin.

**18676.** A variety with brown skin.

**18677. MEDICAGO SATIVA.****Alfalfa.**

From Traverse City, Mich. Received through Mr. J. M. Westgate, June 11, 1906.

Seed gathered from two-year-old plant on the farm of Mr. C. R. Dockeray, Traverse City, Mich., June 1, 1905.

**18678. MEDICAGO SATIVA.****Alfalfa.**

From Split Rock, N. Y. Received through Prof. A. S. Hitchcock, June 11, 1906.

Seed gathered October 6, 1904.

**18679 and 18680. ZEA MAYS.****Corn.**

From Magyar Óvár, Hungary. Presented by Prof. Kern Hermann, through Mr. Edgar Brown. Received June 2, 1906.

Two varieties of flint corn, as follows:

**18679.** *Cinquatino.*

**18680.** *Sehr früher von Alcinth.*

"These two corns are varieties of the small early flint type which is now being cultivated to a considerable extent in Hungary. They are very small in size, the ears about 6 inches long, with the kernels about the size of our larger popcorns. The grains are nearly free from starch, with a rather large embryo. On account of the small size of the stalks, this corn is planted close together, the rows being about 20 inches apart and the hills from 8 to 10 inches apart in the row. The average yield is from 20 to 25 bushels per acre." (*Brown.*)

**18681 to 18683.**

From Teheran, Persia. Presented by Mr. John Tyler, United States vice-consul-general. Received June 1 and 11, 1906.

**18681.** PAPAVER SOMNIFERUM.

**Opium poppy.**

**18682.** NICOTIANA TABACUM.

**Tobacco.**

**18683.** PISTACIA VERA.

**Pistache.**

"Persian 'Pista' grown in the district of Damghān, about 200 miles east of Teheran. Nuts from this place have the reputation of being the best, purest, and most qualified to resist attacks of parasites." (*Tyler.*)

**18684. ANDROPOGON SORGHUM.****Milo.**

From Memphis, Tex. Received through Mr. J. F. Bradley, June 13, 1906.

*Extra Dwarf.*

**18685 to 18688.**

From Honolulu, Hawaii. Presented by Hon. David Haughs, acting director of Forestry. Received June 11, 1906.

**18685.** BACHINIA TOMENTOSA.

**St. Thomas tree.**

**18686.** CASUARINA GLAUCA.

**Blue ironwood.**

**18687.** CASUARINA STRICTA.

**Australian ironwood.**

**18688.** SYNCARPIA LAURIFOLIA.

**Turpentine tree.**

**18689 to 18691. CHENOPodium QUINOA.****Quinoa.**

From La Paz, Bolivia. Received through Señor M. V. Ballovian, Ministerio de Colonias y Agricultura, June 14, 1906.

18689. *Common.*18691. *Kanagua.*18690. *Royal.*

(See Nos. 18536 and 18537.)

**18692. TRIFOLIUM REPENS.****White clover.**

From Lodi, Italy. Received through Prof. Carlo Besana, June 16, 1906. Introduced by Mr. Edgar Brown, of the Bureau of Plant Industry.

*Lodino.***18693 to 18698. PHOENIX DACTYLIFERA.****Date.**

From M'Zab, in the Algerian Sahara. Received through Mr. Yahia ben Kassem, June 16, 1906.

According to Mr. Yahia ben Kassem this lot includes the varieties *Tazzizaoute* and *Bent Kbalu*. Upon examination of the offshoots, however, Mr. Swingle found a label, written in Arabic, upon each of the plants, which he succeeded in deciphering as *Timjoohert*, which is described in his letter as follows:

*Timjoohert*. A soft date from the M'Zab region of the Algerian Sahara; fruit of a rich, red-brown color when ripe,  $1\frac{1}{2}$  to  $1\frac{3}{4}$  inches long, three-fourths to seven-eighths inch wide; flesh without fiber, very sweet, and of exceedingly good flavor, considered by some to be superior to the *Deglet noor*. It is a sticky date and its sirupy juice exudes from the ripening fruit in such abundance as to drip from the tree. It will require a process of curing to get rid of this sirup, but this variety is of such good quality that it may, nevertheless, prove profitable in commercial culture, especially in regions where the *Deglet noor* can not mature. It may furnish a good second-class date which can be sold in competition with the selected Oriental dates which now reach our markets from Busra and Muscat.

**18699 and 18700.**

From Darmstadt, Germany. Received through A. Le Coq & Co., June 16, 1906.

18699. *MELILOTUS ALBA.***Sweet clover.***Bokhara.*18700. *VICIA VILLOSA.***Hairy vetch.****18701 to 18703.**

From Reading, England. Received through Sutton & Sons, June 15, 1906.

18701. *CRAMBE MARITIMA.***Sea kale.**18702. *CYNARA SCOLYMUS.***Artichoke.***Purple Globe.*18703. *CYNARA SCOLYMUS.***Artichoke.***Selected Large Green.***18704. CHRYSOPHYLLUM sp.**

From Piracicaba, Brazil. Presented by Dr. J. W. Hart, director of the Agricultural College. Received June 7, 1906.

**18705. PANICUM LAEVIFOLIUM.**

From Pretoria, Transvaal. Presented by Prof. J. Burt Davy, of the Transvaal Department of Agriculture. Received June 18, 1906.

**18706. AMYGDALUS DAVIDIANA.**

From Peking, China. Received through Mr. F. N. Meyer (No. 167a), May 18, 1906.

Seeds of the wild peach, scions of which were sent under Nos. 126, 127, and 129 (S. P. I. Nos. 17729 to 17731); from the mountains near Fangshan.

**18707. GLYCINE HISPIDA.****Soy bean.**

From China. Renumbered for convenience in recording distribution, June 21, 1906.

A dull reddish brown colored variety of soy beans, the actual source of which is in doubt.

**18708 to 18725.**

From San Jose, Costa Rica. Presented by Mr. E. C. Rost, through Mr. L. C. Corbett, horticulturist of the Bureau of Plant Industry. Received June 20, 1906.

A collection mostly of economic plants, with notes by Mr. E. C. Rost.

**18708.** (Undetermined.)

An evergreen vine with white, star-shaped flowers.

**18709.** (Undetermined.)

**Palm.**

**18710.** *CARICA PAPAYA.*

**Papaw.**

**18711.** *IPOMOEA* sp.

**Morning-glory.**

Seed of a wild variety.

**18712.** *IPOMOEA* sp.

**Morning-glory.**

*Blue Giant.*

**18713.** *CANNA* sp.

**18714.** (Undetermined.)

**Gavilana.**

A tree with leaves like the American mountain ash; has yellow flowers somewhat resembling the locust. Should do well in the extreme south.

**18715.** *ANONA* sp.

**18716.** *COBAEA SCANDENS.*

**18717.** *MUCUNA* sp.

**18718.** (Undetermined.)

**18719.** *ARGEMONE MEXICANA.*

**Mexican poppy.**

**18720.** (Undetermined.)

Seed, in a flat, round, spiny pod resembling a sea urchin. Grows on a tall tree with yellow flowers.

**18721.** *GOSSYPIUM* sp.

**Cotton.**

A few seeds of everbearing, large, native tree cotton.

**18722.** *SOLANUM TUBEROSUM.*

**Potato.**

*Pacaya.*

**18723.** *SOLANUM TUBEROSUM.*

**Potato.**

A potato introduced from Peru.

**18724.** *SOLANUM TUBEROSUM.*

**Potato.**

A yellow-colored potato introduced from Peru.

**18725.** *SOLANUM TUBEROSUM.*

**Potato.**

A dark wine-colored potato introduced from Peru.

**18726. DOLICHOS LUBIA.**

From Paris, France. Received through Messrs. Vilmorin-Andrieux & Co., June 22, 1906.

**18727 to 18749.**

From Bahama Islands, British West Indies. Collected by Mr. P. J. Wester in April, 1906.

A collection of plants, seeds, and cuttings thought to be of value in the subtropical region of Florida, either as economics or ornamentals, the proximity to the Bahamas and nearly similar climatic conditions making it very probable that these introductions will thrive well in the vicinity of Miami, where they have been planted in the Subtropical Laboratory and Garden.

The accompanying notes are by Mr. Wester.

**18727. CITRUS DECUMANA.****Pomelo.**

"Mr. Flagler is reported to have said that he ate better pomelos in the Bahamas, from seedling trees, than any that he tasted in Florida. Upon inquiry it was found that some of this fruit had been supplied by R. S. Johnstone, circuit judge, Nassau, New Providence, Bahamas, who, on solicitation, presented me with budwood from two seedling trees, the fruit of which he considered very superior. The fruit is said to be rather small, but very juicy and sweet." (Lab. No. 460.)

**18728. CITRUS DECUMANA.****Pomelo.**

"Fruit said to be of superior value. Budwood presented by Judge R. S. Johnstone." (Lab. No. 461.)

**18729. PERSEA GRATISSIMA.****Avocado.**

*Johnstone.* "Budwood secured through Judge R. S. Johnstone, who gave the following description of the fruit: 'Pear-shaped, but rather broad at basal end; skin smooth, thin; flesh yellow, almond-flavored; seed large; famous as the best avocado in the Bahamas. Ripens in August and September.'" (Lab. No. 462.)

**18730. PERSEA GRATISSIMA.****Avocado.**

*Largo.* "Budwood presented by Mr. C. H. Matthews, from a large tree. He described the fruit as follows: 'Egg-shaped; very large, 3½ to 4 pounds in weight; skin green, very thin; flavor very good; seed small; ripens in August and September.'" (Lab. No. 464.)

**18731. PERSEA GRATISSIMA.****Avocado.**

*Grant.* "Buds secured from a tree in Grantown, said by its colored owner to bear extra early fruit of good quality. The young fruits were well advanced in size for the season when the budwood was obtained, which seemed to substantiate the owner's assertion." (Lab. No. 465.)

**18732. HIBISCUS ROSA-SINENSIS.****Chinese hibiscus.**

"Budwood secured from plants in the garden of Hotel Colonial, Nassau, New Providence. Flowers distinct from any of the forms seen in Florida; semidouble, very dark red with a purple tinge, making it a distinct acquisition." (Lab. No. 467.)

**18733. VANILLA sp.**

"Plants collected on Soldiers road, New Providence. This vanilla grows on land of a very rocky character with a scanty layer of soil. The vegetation does not exceed 12 feet, and the average height of a shrub is 8 feet. It was interesting to note that the foliage was very sparse, affording very little shade. The growth of the vanilla was exceedingly stocky and strong. In appearance the plant resembles the *V. eggersii* in Florida, except that the bract-like leaves of the latter are entirely absent in the Bahama species. The nodes on the latter species are also closer than those on the species from Florida." (Lab. No. 470.)



**18727 to 18749—Continued.****18734. FICUS BENJAMINA.**

"Used as a shade tree on the streets of Nassau, New Providence. Unquestionably one of the most noble and majestic of shade trees, with dark evergreen foliage. Appears to stand the dust and heat of the street better than any tree I have seen. Cuttings presented by M. Clavel, head gardener, Hotel Colonial, Nassau, New Providence." (Lab. No. 473.)

**18735. (Undetermined.)**

"Native name 'Spanish Thyme.' A plant belonging to the family Scrophulariaceae, with fleshy, succulent leaves used in the Bahamas for flavoring soups. Cuttings secured in Grantown, New Providence." (Lab. No. 474.)

**18736. ANONA RETICULATA.****Custard apple.**

"Budwood secured from a tree in Grantown, having very large fruit, 14 inches in circumference. Fruit heart-shaped, yellow, netted with crimson veins, crimson on one side, making it exceedingly handsome; tree said by owner to be very prolific. Fruit of good quality." (Lab. No. 478.)

**18737. ANONA MURICATA.****Soursop.**

"Budwood secured from a prodigiously prolific tree. As fruits were not mature, there was no opportunity to judge of the quality." (Lab. No. 484.)

**18738. TAMARINDUS INDICA.****Tamarind.**

"Budwood obtained from Judge R. S. Johnstone, Nassau, New Providence. Pods with the acid so reduced as to make them relished when eaten direct from the tree, which is unusual with this fruit." (Lab. No. 487.)

**18739. ALTHAEA ROSEA.****Hollyhock.**

"A striking and conspicuous ornamental in Nassau, where it has become naturalized." (Lab. No. 489.)

**18740. BASELLA ALBA.****Malabar nightshade.**

"Native name 'Spinach.' A plant of running and climbing habit of exceedingly vigorous growth. The leaves have a very close resemblance to spinach in form, whose tenderness and succulency they possess, and are used as spinach in the Bahamas. As the plants thrive well even during the summer months, it is thought that they will prove a valuable acquisition to the vegetable garden in south Florida during the summer months. Seed secured in Grantown, New Providence." (Lab. No. 490.)

**18741. CATESBAEA SPINOSA.**

"Seed obtained from M. Clavel, head gardener, Hotel Colonial. Leaves evergreen, thick and leathery; branches armed with stout spines, making it a valuable hedge plant; flowers attractive, bell shaped, cream colored." (Lab. No. 492.)

**18742. ZEA MAYS.****Corn.**

"Native yellow corn presented by Mr. W. M. Cunningham, curator, Botanic Station, Nassau, New Providence. This is a variety of corn collected by Mr. Cunningham, together with Nos. 18743 to 18745, on the various islands where these varieties do quite well. South Florida has at present no variety suited to its conditions, and as the climate here and in the Bahamas is very similar, it is not improbable that some of these varieties may prove valuable introductions." (Lab. No. 495.)

**18743. ZEA MAYS.****Corn.**

Governor. "Presented by Mr. W. M. Cunningham. Native to the Bahama Islands." (Lab. No. 496.)

**18744. ZEA MAYS.****Corn.**

Native white. "Native to the Bahamas. Presented by Mr. W. M. Cunningham." (Lab. No. 497.)

**18727 to 18749—Continued.****18745. ZEA MAYS.****Corn.**

*Caicos yellow.* "Native to the Bahamas. Presented by Mr. W. M. Cunningham." (Lab. No. 425.)

**18746. DOLICHOS LABLAB.****Hyacinth bean.**

"Native name *Bonavis*. A very vigorous climbing and trailing plant, foliage resembling the cowpea, but far more vigorous. Stems slightly tinged with purple; seeds dark brown with velvety luster. Seed secured from plants growing in Grantown, New Providence." (Lab. No. 488.)

**18747. DOLICHOS LABLAB.****Hyacinth bean.**

"Native name *Bonavis*. A leguminous plant with habits similar to No. 18746. The purple tinge of the stem is absent; flowers are creamy white; seed white, and much relished by the natives in cooking. Seed secured from plants growing in Grantown, New Providence." (Lab. No. 499.)

**18748. PHARBITIS sp.****Morning-glory.**

"Seed collected from native plants in Nassau, New Providence. Plants climbing, but seldom 4 feet in height; foliage tomentose; flowers pale blue, about 2 inches in diameter, exceedingly ornamental and strikingly different from species of *Ipomoea*."

**18749. RESEDA sp.****Mignonette.**

"Seed obtained from Mr. C. H. Matthews, Nassau, New Providence. A very handsome ornamental; leaves pinnatifid, of a silvery white tinge; stems 2 feet, bare, with a long spike of white flowers. A perennial."

**18750. SINAPIS ALBA.****White mustard.**

From Moscow, Russia. Received through Immer & Son, June 25, 1906.

*Sarepta.*

**18751. MEDICAGO SATIVA.****Alfalfa.**

From New York, N. Y. Received through H. Nungesser & Co., June 25, 1906.

*Turkestan.*

**18752 to 18763.**

From Singapore, Straits Settlements. Presented by Prof. H. N. Ridley, director of the Botanic Gardens. Received June 29, 1906.

**18752. AMORPHOPHALLUS PRAINII.****18758. ALOCASIA INDICA.****18753. AMORPHOPHALLUS REX.****18759. ALOCASIA SINGAPORENSIS.****18754. AMORPHOPHALLUS SATIVUS.****18760. ALOCASIA MACRORHIZA.****18755. ALOCASIA LOWII.****18761. XANTHOSOMA VIOLACEUM.****18756. ALOCASIA GRANDIS.****18762. XANTHOSOMA ROBUSTUM.****18757. ALOCASIA LONGILOBA.****18763. TYPHONIUM TRIBOLATUM.****18764. ASPARAGUS MYRIOCLADUS.**

From Berea, Durban, Natal. Presented by J. Medley Wood, director of the Natal Botanic Gardens. Received June 30, 1906.

**18765. GARCINIA XANTHOCHYMUS.**

From Honolulu, Hawaii. Presented by Mr. E. W. Jordan, through Mr. Gerrit P. Wilder. Received July 2, 1906.

**18766 to 18770.**

From Piracicaba, Brazil. Presented by Dr. J. W. Hart, director of the Agricultural College. Received June 7, 1906.

**18766. ANONA sp.**

*Articu* or *Cabeça de negro* (negro head). "Segmented fruit, heart-shaped, about 20 centimeters in diameter, sweet, aromatic, edible. Tree 15 meters, spreading, grows on poor, sandy land on the open prairie." (*Hart.*) (No. 16.)

**18767. ANONA sp.**

*Fruita de Conde*. "Similar to preceding, but the fruit is much superior. This variety has been domesticated." (*Hart.*) (No. 17.)

**18768. ARAUCARIA BRASILIANA.**

(No. 22.)

**18769. PSIDIUM GUAJAVA.**

**Guava.**

*Red.* (No. 12.)

**18770. PSIDIUM GUAJAVA.**

**Guava.**

*White.* (No. 13.)

**18771 and 18772.**

From Salisbury, Rhodesia, South Africa. Received from Hon. E. Ross Townsend, Secretary for Agriculture, through Mr. W. A. Driver, Dinuba, Cal., June 30, 1906. (See Nos. 12810 and 12959, Inventory No. 11.)

**18771. (Undetermined.)**

**Marula.**

**18772. (Undetermined.)**

**Matundulaku.**

**18773. CARICA PAPAYA.**

**Papaw.**

From Manila, P. I. Presented by Mr. W. S. Lyon, horticulturist, Bureau of Agriculture. Received June 29, 1906.

**18774 to 18785.**

From Mexico. Received through Mr. G. Onderdonk, July 5, 1906.

**18774 to 18782. PRUNUS ARMENIACA.**

**Apricot.**

**18774. Onderdonk's No. 18.**

"From place of C. Ramirez, Lagos, Jalisco. Fruit yellow, light blush, sweet, freestone, circumference 4 inches."

**18775. Onderdonk's No. 19.**

"From place of Francisco Gomez Garcia, Lagos, Jalisco. Fruit white, 4½ inches in circumference."

**18776. Onderdonk's No. 20.**

"From place of Enrique Maupin, Aguascalientes. Fruit yellow, light blush, sweet, 5 inches in circumference."

**18777. Onderdonk's No. 21.****18778. Onderdonk's No. 22.****18779. Onderdonk's No. 23.****18780. Onderdonk's No. 24.**

"Nos. 18777 to 18780 are from Señor Maupin's orchard at Aguascalientes. They are all of the same general character, yellow with faint blush, fruit from 4 to 5 inches in circumference."

**18781. Onderdonk's No. 15.**

*Nellie.* (See No. 9844, Inventory No. 10.)

**18782. Onderdonk's No. 16.**

*Dorah.* (See No. 9845, Inventory No. 10.)

**18774 to 18785—Continued.****18783.** *AMYGDALUS PERSICA.***Peach.**

Procured by Mr. Oderdonk's son from El Cobre Mountain, near Guadalajara.  
 "A very large, yellow, clingstone peach."

**18784 and 18785.** *MALUS MALUS.***Apple.****18784.**

*Peron.* From place of Mr. J. R. Silliman, Saltillo. (See No. 9014,  
 Inventory No. 10.)

**18785.**

Procured by Mr. Onderdonk's son from El Cobre Mountain. "Very  
 large, rich flavor, greenish color, yellowing slightly as it ripens. No  
 better apple in Mexico."

**18786 to 18800.**

From La Paz, Bolivia. Presented by Señor M. V. Ballovian, Ministerio de  
 Colonias y Agricultura. Received July 6, 1906.

**18786 to 18798.** *SOLANUM TUBEROSUM.***Potato.****18786.** *Phimu.***18793.** *Ajahwira.***18787.** *Lugui.***18794.** *Queni.***18788.** *Pitiguilla.***18795.** *Phureja.***18789.** *Chiarimilla.***18796.** *Koillu.***18790.** *Khati.***18797.** (Label missing.)**18791.** *Monda.***18798.** *Ajahwira.***18792.** *Socco.*

The label for No. 18798, *Ajahwira*, is the same as that for No. 18793,  
 and it is not known to which lot it properly belongs, as the consignment  
 was mixed in transit. The tubers are not alike.

**18799 and 18800.** *OXALIS TUBEROSA.***Oca.****18799.** *Rosada.***18800.** *Morada.***18801. (Undetermined.)**

From Piracicaba, Brazil. Presented by Dr. J. W. Hart, director of the Agricul-  
 tural College. Received July 7, 1906.

Native name *Caja manga*. (Hart's No. 35.)

**18802 to 18823.**

From Erfurt, Germany. Received through Messrs. Haage and Schmidt, July 9,  
 1906.

**18802.** *MEDICAGO MEDIA.***Sand lucern.****18803.** *VICIA CALCARATA.***18814.** *VICIA MICHAUXII.***18804.** *VICIA CORDATA.***18815.** *VICIA NARBONENSIS.***18805.** *VICIA CORNIGERA.***18816.** *VICIA ONOBRYCHIOIDES.***18806.** *VICIA CUSPIDATA.***18817.** *VICIA PANNONICA.***18807.** *VICIA DISPERMA.***18818.** *VICIA PEREGRINA.***18808.** *VICIA FERRUGINEA.***18819.** *VICIA PICTA.***18809.** *VICIA GERARDI.***18820.** *VICIA PSEUDO-CRACCA.***18810.** *VICIA GLOBOSA.***18821.** *VICIA SPURIA.***18811.** *VICIA GRANDIFLORA.***18822.** *VICIA STRIATA.***18812.** *VICIA HYBRIDA.***18823.** *VICIA TRICOLOR.***18813.** *VICIA MACROCARPA.*

**18824 to 18826. ORYZA SATIVA.****Rice.**

From Persia. Presented by Mr. John Tyler, United States vice-consul-general, Teheran, Persia. Received July 6, 1906.

Three samples of unhulled rice from the region south of the Caspian Sea. These samples of rice were given to Mr. Tyler by a friend whose official title is "The Sepahdor" (Commander), who owns large areas where rice of the best sorts are grown. These samples received are of three kinds and from three separate districts, but no labels accompanied them to indicate which was which.

18824. Long slender grain, light hull.

18825. Long slender grain, light hull.

18826. Short flat grain, darker hull.

**18827. MEDICAGO SATIVA.****Alfalfa.**

From Chicago, Ill. Received through the A. Dickinson Company, July 9, 1906.

**18828. CARICA PAPAYA.****Papaw.**

From Columbia, Isle of Pines, West Indies. Presented by Dr. F. R. Ramsdell. Received July 10, 1906.

**18829 and 18830. ANDROPOGON SORGHUM.**

From Channing, Tex. Received through Mr. J. J. Edgerton, July 13, 1906.

18829.

**Kafir corn.**

*Black-Hulled White.*

18830.

**Milo.**

*Dwarf.*

**18831 to 18834. CYNARA SCOLYMUS.****Artichoke.**

From Milan, Italy. Received through Fratelli Ingegnoli, July 16, 1906.

18831. *Grosso d'Italian.*

18833. *Sensa Spine di Venezia.*

18832. *Violetto di Provenza.*

18834. *Palla di Roma.*

**18835 to 18912. FICUS CARICA.****Fig.**

From Niles, Cal. Received through the California Nursery Company at the Plant Introduction Garden, Chico, Cal., in March, 1906.

Nos. 18835 to 18898, inclusive, are from the Chiswick collection. A description of these varieties will be found in Bulletin No. 9, Division of Pomology, 1901.

18835. *De l'Archipel.*

18847. *Bourjassote Grise.*

18836. *Bontard.*

18848. *A' Bois Jaspee.*

18837. *Grosse Marseilles.*

18849. *Royal Vineyard.*

18838. *Peau dure.*

18850. *De Grasse.*

18839. *Negronne.*

18851. *Euscaire Preto.*

18840. *Bourjassote noire.*

18852. *Trois Recoltes.*

18841. *Poulette.*

18853. *Monaco Bianco.*

18842. *(Eil de Perdrix.*

18854. *Bondance Precoce.*

18843. *Du Roi.*

18855. *Trifer.*

18844. *Grosse Violette de Bordeaux.*

18856. *Green Ischia.*

18845. *Datte.*

18857. *Hirta du Japon.*

18846. *Monstrueuse.*

18858. *St. Johns.*

**18835 to 18912—Continued.**

18859. <i>Vebra.</i>	18886. <i>White Ischia.</i>
18860. <i>Datte Quotidienne.</i>	18887. <i>Brown Turkey.</i>
18861. <i>Arbal.</i>	18888. <i>Pastiliere.</i>
18862. <i>De Jerusalem.</i>	18889. <i>Negro Largo.</i>
18863. <i>Nebian.</i>	18890. <i>De La Madeleine.</i>
18864. <i>Vigasotte Bianco.</i>	18891. <i>Col de Signora Bianco.</i>
18865. <i>Grise Savantine bifere.</i>	18892. <i>Doree Nobis.</i>
18866. <i>Quarteria.</i>	18893. <i>Pingo de Mel.</i>
18867. <i>Douro Vebra.</i>	18894. <i>Black Ischia.</i>
18868. <i>Reculver.</i>	18895. <i>Toulousienne.</i>
18869. <i>Gourand Rouge.</i>	18896. <i>Gouraud Noir.</i>
18870. <i>D' Agen.</i>	18897. <i>Doree.</i>
18871. <i>Lampa.</i>	18898. <i>Brunswick.</i>
18872. <i>Large Black Douro.</i>	18899. <i>Gentile.</i>
18873. <i>Adam.</i>	18900. <i>White Adriatic.</i>
18874. <i>De Constantine.</i>	18901. <i>Pacific white.</i>
18875. <i>Biberæo.</i>	18902. <i>Vendome.</i>
18876. <i>Grosse Verte.</i>	18903. <i>Barbillonne.</i>
18877. <i>Violette Sepor.</i>	18904. <i>Figuieres Blanch.</i>
18878. <i>Dr. Hoggs Clare.</i>	18905. <i>Warren's Brown Turkey.</i>
18879. <i>Hardy Prolific.</i>	18906. <i>Capri Milco.</i>
18880. <i>Figue d' Or.</i>	18907. <i>Trojano.</i>
18881. <i>Recousse noire.</i>	18908. <i>Capri Solms No. 1.</i>
18882. <i>Black Douro.</i>	18909. <i>Capri Solms No. 2.</i>
18883. <i>Grassale.</i>	18910. <i>Capri Solms No. 3.</i>
18884. <i>Martinique.</i>	18911. <i>Capri Solms No. 4.</i>
18885. <i>Crave.</i>	18912. <i>Dauphine.</i>

**18913. TRIFOLIUM PRATENSE.****Red clover.**

From Emilia, Italy. Presented by William G. Scarlett & Co., Baltimore, Md.  
Received in April, 1906.

**18914. PINUS KORAIENSIS (?).****Pine.**

From Manchuria. Presented by the Yokohama Nursery Company, Yokohama,  
Japan. Received July 5, 1905.

Seed of a 5-needled pine obtained at the base of Heirai Mountain, Manchuria.

**18915 to 18921. ORYZA SATIVA.****Rice.**

From Cairo, Egypt. Received through Mr. George P. Foaden, secretary of the  
Khedivial Agricultural Society, July 5, 1906.

18915. <i>Ein el Bent.</i>	18919. <i>Agemi.</i>
18916. <i>Sina.</i>	18920. <i>Sultani.</i>
18917. <i>Italien Ranghino.</i>	18921. <i>Japonais.</i>
18918. <i>Fino.</i>	



**18922 and 18923.**

From Kashgar, Eastern Turkestan. Presented by Rev. P. J. P. Hendriks.  
Received July 20, 1906.

**18922.** HORDEUM VULGARE.

**Barley.**

"A variety which is said to require only one month without frost. Grown in the mountain regions near Kashgar, Eastern Turkestan." (*Hendriks.*)

**18923.** RICINUS COMMUNIS.

**Castor-oil plant.**

Seed of a medium-sized variety.

**18924. MANGIFERA INDICA.**

**Mango.**

From Miami, Fla. Received through the Subtropical Laboratory and Garden,  
July 23, 1906.

*Turpentine.* Seed for growing stocks upon which to inarch standard varieties.

**18925. ANONA CHERIMOLIA.**

**Cherimoyer.**

From Salta Province, Argentina. Presented by Mr. Ernest Nelson, of Sharon,  
Mass. Received July 13, 1906.

**18926 to 18940. ANDROPOGON SORGHUM.**

**Sorghum.**

From Chillicothe, Tex. Grown in 1905 at the Government Farm, and distributed from same place.

**18926.** *Djougara balki.* Grown from Agrost. No. 1579.

**18927.** *Planter's Friend.* Grown from Agrost. No. 1604.

**18928.** *Amber.* Grown from Agrost. No. 1606.

**18929.** *Amber.* Grown from Agrost. No. 1658.

**18930.** *Planter's Friend.* Grown from Agrost. No. 1659.

**18931.** *Amber.* Grown from Agrost. No. 1747.

**18932.** *Black-seeded.* Grown from Agrost. No. 2114.

**18933.** *Edra.* Grown from S. P. I. No. 8815.

**18934.** *Dshugara Balcha.* Grown from S. P. I. No. 9796.

**18935.** *Dagdi Jowar.* Grown from S. P. I. No. 9856.

**18936.** *Djugara.* Grown from S. P. I. No. 10612.

**18937.** *White.* Grown from S. P. I. No. 13317.

**18938.** *Red.* Grown from S. P. I. No. 13318.

**18939.** *Gare.* Grown from S. P. I. No. 14504.

**18940.** *White of Rey Bareilly.* Grown from S. P. I. No. 14635.

**18941. LATHYRUS SATIVUS.**

**Bitter vetch.**

From Clarinda, Iowa. Received through the A. A. Berry Seed Company, July  
27, 1906.

**18942 to 19057.**

From Mexico and southwestern United States. Collected by Mr. David Griffiths,  
of this Department, and forwarded to the Plant Introduction Garden, Chico,  
Cal., during the summer of 1905.

The numbers in parentheses are those of Mr. Griffiths.

**18942.** OPUNTIA sp.

**Tuna.**

From El Paso, Tex. (8020.)

## 18942 to 19057—Continued.

18943. *OPUNTIA* sp. Tuna.  
From El Paso, Tex. (8021.)
18944. *NOPALEA* sp.  
From San Mateo, Mexico. (8027.)
18945. *OPUNTIA* sp. Tuna.  
*Nopal cristilena*. From Cardenas, Mexico. (8030.)
- 18946 to 19057. *OPUNTIA* sp. Tuna.
18946. From Cardenas, Mexico. (8031.)
18947. From Cardenas, Mexico. (8032.)
18948. From San Luis Potosi, Mexico. (8034.)
18949. From San Luis Potosi, Mexico. (8035.)
18950. *Nopal Cuijo*. From San Luis Potosi, Mexico. (8036.)
18951. *Nopal ranchero*. From San Luis Potosi, Mexico. (8037.)
18952. *Nopal palmito*. From San Luis Potosi, Mexico. (8038.)
18953. From San Luis Potosi, Mexico. (8039.)
18954. *Nopal camueso*. From San Luis Potosi, Mexico. (8040.)
18955. From San Luis Potosi, Mexico. (8041.)
18956. From San Luis Potosi, Mexico. (8042.)
18957. *Nopal tapon*. From San Luis Potosi, Mexico. (8043.)
18958. *Nopal*. From San Luis Potosi, Mexico. (8044.)
18959. *Tuna castilla blanca*. From San Luis Potosi, Mexico. (8045.)
18960. *Nopal charol*. From San Luis Potosi, Mexico. (8046.)
18961. From San Luis Potosi, Mexico. (8047.)
18962. From San Luis Potosi, Mexico. (8048.)
18963. *Nopal jocoquillo*. From San Luis Potosi, Mexico. (8049.)
18964. From San Luis Potosi, Mexico. (8050.)
18965. From Alonzo, Mexico. (8053.)
18966. From Alonzo, Mexico. (8055.)
18967. From San Luis Potosi, Mexico. (8058.)
18968. *Nopal jarrillo*. From San Luis Potosi, Mexico. (8061.)
18969. From San Luis Potosi, Mexico. (8062.)
18970. From San Luis Potosi, Mexico. (8063.)
18971. From San Luis Potosi, Mexico. (8064.)
18972. *Nopal cardon blanco*. From Hepasote, Mexico. (8067.)
18973. *Nopal opatillo*. From Hepasote, Mexico. (8068.)
18974. *Tuna amarilla blanca*. From Hepasote, Mexico. (8069.)
18975. From Hepasote, Mexico. (8071.)
18976. From Hepasote, Mexico. (8072.)
18977. *Mameya*. From Hepasote, Mexico. (8073.)
18978. From Hepasote, Mexico. (8074.)
18979. *Nopal San Juanero*. From Hepasote, Mexico. (8075.)
18980. *Nopal loco*. From Hepasote, Mexico. (8076.)
18981. From Hepasote, Mexico. (8077.)

## 18942 to 19057—Continued.

18982. *Nopal blanco liso*. From Hacienda Los Campos, Mexico. (8079.)
18983. *Nopal durasnillo*. From Aguascalientes, Mexico. (8081.)
18984. *Nopal durasnillo*. From Aguascalientes, Mexico. (8082.)
18985. From Aguascalientes, Mexico. (8083.)
18986. *Nopal joconotle*. From Aguascalientes, Mexico. (8084.)
18987. *Nopal joconotle*. From Aguascalientes, Mexico. (8086.)
18988. From Aguascalientes, Mexico. (8087.)
18989. From Aguascalientes, Mexico. (8088.)
18990. *Nopal joconoxtle*. From Aguascalientes, Mexico. (8089.)
18991. From Aguascalientes, Mexico. (8090.)
18992. From Aguascalientes, Mexico. (8091.)
18993. *Nopal tapon*. From Aguascalientes, Mexico. (8092.)
18994. *Spineless*. From Aguascalientes, Mexico. (8094.)
18995. From Aguascalientes, Mexico. (8101.)
18996. From Encarnacion, Mexico. (8102.)
18997. *Nopal liso*. From Encarnacion, Mexico. (8103.)
18998. From Los Sauces, Mexico. (8104.)
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- 19051. From Mexico.
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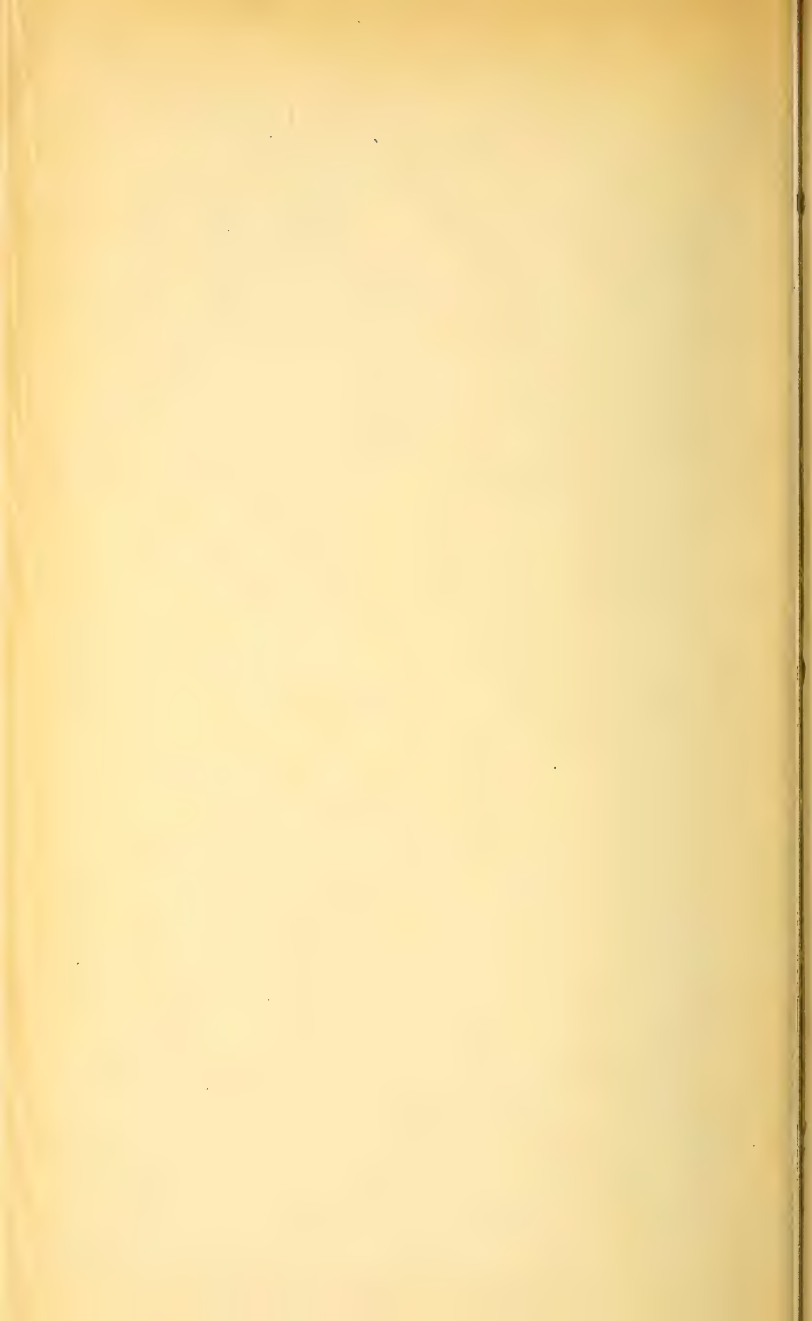
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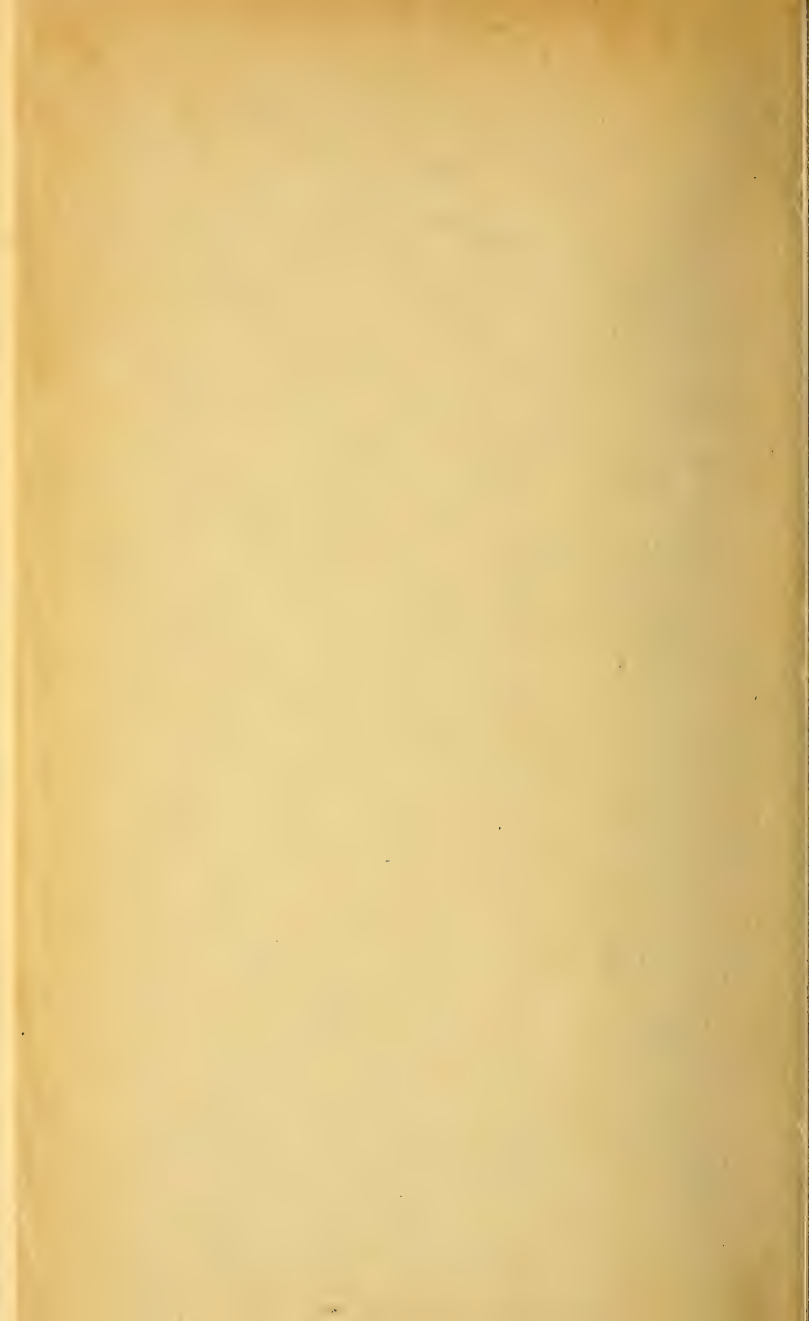
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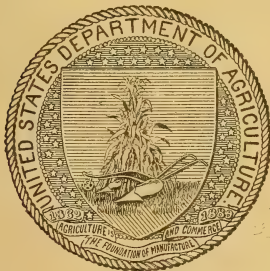
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[Continued on page 3 of cover.]

U. S. DEPARTMENT OF AGRICULTURE.

BUREAU OF PLANT INDUSTRY—BULLETIN NO. 132.

B. T. GALLOWAY, *Chief of Bureau.*

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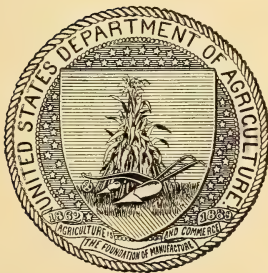
# SEEDS AND PLANTS IMPORTED

DURING THE PERIOD FROM JULY, 1906,  
TO DECEMBER 31, 1907:

INVENTORY No. 13; Nos. 19058 TO 21730.

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ISSUED DECEMBER 4, 1908.



WASHINGTON:  
GOVERNMENT PRINTING OFFICE.  
1908.

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## LETTER OF TRANSMITTAL.

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U. S. DEPARTMENT OF AGRICULTURE,  
BUREAU OF PLANT INDUSTRY,  
OFFICE OF THE CHIEF,  
*Washington, D. C., May 22, 1908.*

SIR: I have the honor to transmit herewith, and to recommend for publication as Bulletin No. 132 of the series of this Bureau, the accompanying manuscript, entitled, "Seeds and Plants Imported During the Period from July, 1906, to January, 1908: Inventory No. 13; Nos. 19058 to 21730."

This manuscript has been submitted by the Agricultural Explorer in Charge of Foreign Seed and Plant Introduction with a view to publication.

Respectfully,

B. T. GALLOWAY,  
*Chief of Bureau.*

HON. JAMES WILSON,  
*Secretary of Agriculture.*





## SEEDS AND PLANTS IMPORTED DURING THE PERIOD FROM JULY, 1906, TO DECEMBER 31, 1907: INVENTORY NO. 13; NOS. 19058 TO 21730.

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### INTRODUCTORY STATEMENT.

This inventory, the thirteenth of the series which was begun in 1898, has been prepared under the direct supervision of Mr. Walter Fischer. It brings the total number of introduced plants up to 21,730 and includes 2,672 numbers, covering a period of eighteen months.

A feature of the work of Foreign Seed and Plant Introduction which is growing rapidly and which appears in this inventory is the introduction of small quantities of seeds and plants in response to requests of plant breeders who are at work on particular crops. This feature opens up the whole world as a new field to be explored, for there are hosts of wild forms which are related to our cultivated fruits and cereals and which the plant breeder needs to mix in with his American forms to get new combinations of valuable characters.

For example, the inventory includes seeds of the wild beet of Sicily for the sugar-beet breeder; a wild asparagus from Japan, another from Cape Town, and a third from southern France for the asparagus breeders of the country; wild rhubarbs from China and France; wild plums from Siberia and north China; wild blackberries, raspberries, and strawberries from China; wild currants from Korea; a wild pyrus from Norway; a collection of wild apples and pears from various parts of the world, the gift of the Arnold Arboretum; wild apricots from China; a wild rose from north China; a native wild timothy from Siberia; the *Solanum commersoni*, a wild wet-land potato from Uruguay, and a native wild cherry from Korea. All of these things are already in the hands of plant breeders, who will discover what they have of value in them for the production of new and valuable forms for general cultivation.

This work for the breeders is just beginning. It is longer in bringing in financial results to the country than the introduction of a superior strain of cereal or fruit, but it lies at the bottom of the origination of entirely new things whose possibilities are now quite unknown, and, judging by the experience of the past, it is safe to predict that a single one of these new forms may repay to the farmers or fruit growers of the country hundreds of times what their introduc-

tion has cost. While individual firms, through the increasing intercourse between countries, can be depended on more and more to introduce varieties of staple crops, there is no money to be made from the search for these wild forms for the use of plant breeders, who are generally spending all the money they can spare on their nurseries and trial grounds.

It is therefore a legitimate work for the Government to aid these experimenters, who are at the same time benefactors and who seldom make financial gains from their new originations, because there is no way of retaining control of their sale long enough to make them very profitable.

It may not be out of place to give here some idea of the labor involved in taking care of these new introductions as they come in.

In order to be as sure as possible that no plant gets in which is likely to be a weed or that has on it some dangerous insect pest or other plant disease; that, so far as it is possible to determine from an examination of the seeds or cuttings, the plant comes in under its true name; that the seeds are not dead before they are sent out; that the information which comes with the seeds is recorded on the inventory cards from which this printed inventory is made up, and that the experimenter in the field is written to and the shipment to him recorded in a card catalogue, every new introduction has to pass through the hands of fourteen different clerks or experts.

The time consumed in carrying out these different steps is generally from one to two weeks if there are not discovered on the shipment some diseases which make a quarantine necessary, in which case a much longer time will be required for the necessary fumigation and disinfection.

This large amount of labor is necessary, and it forms one of the reasons why the friends of this work who so kindly offer to send gratis all sorts of things from their regions have to be sent discouraging or rather unappreciative replies. It is such an easy thing to import a small packet of seeds or a few cuttings and such an expensive thing to get it into the hands of a great number of experimenters that unless the attention of the office force is limited to the handling of such things as are on the programme, so to speak, those actually imported will not get the attention they require. With increased funds an increasing number of new introductions will be handled.

Among the more notable collections which appear in this inventory are those of our agricultural explorer Mr. Frank N. Meyer, who has spent the entire time represented by this inventory in northern China and who has with most unusual devotion and bravery gathered together and successfully gotten to this country 680 different things. He has collected personally the seeds and cuttings of valuable trees and shrubs from the neighborhood of Peking; forage crops from

Manchuria, and grasses, legumes, vegetables, cereals, hardy stone fruits, apples, pears, grapes, and ornamentals from northern Korea, eastern Siberia, and Manchuria.

These explorations in China by Mr. Meyer have been the most extensive that have been undertaken by this office and at the same time the most economically conducted. Mr. Meyer has at two different times come very near losing his life, and during a large part of his journeyings he has been subjected to extreme hardships such as few of our previous explorers have had to contend with. His work is deserving of the highest praise.

This inventory also includes the collections of Prof. N. E. Hansen, of the South Dakota Agricultural College, who made, as agricultural explorer of this office, an extensive trip through northern Europe and across Siberia by rail. The results of his collections are recorded in 309 inventory numbers, and these include high-latitude grains and leguminous plants from above the Arctic Circle in Norway and Sweden; interesting forage grasses, clovers, and alcohol potatoes from Russia; vegetables, stone fruits, sorghums, and millets from Turkestan, and new cereals, grasses, alfalfas, and vetches from Siberia. Of these the most remarkable are the wild alfalfas, which form a part of the excellent wild hay of the steppes and which are subjected to most unusual cold and drought, and it is hoped that they will prove of value in the northern area of the Mississippi Valley.

The large importations of matting plants from the Orient which were made by our agricultural explorer Mr. John Tull in 1906 appear in this inventory and represent a difficult piece of introduction work which is likely to be of great value to the Southern States. Several acre plantings from these importations are now growing in the South.

Through a cooperative arrangement with the Arnold Arboretum, Mr. E. H. Wilson, the well-known botanical explorer of China, who is now on the Upper Yangtse River collecting seeds and plants for the arboretum, has secured some wheats, sorghums, raspberries, bamboos, and wild rhubarb of unusual interest, which are listed in this inventory.

Some collections, received through correspondence, of unusual interest are seeds of 28 varieties of dates for the seedling date orchards in the Southwest; 125 varieties of rice from Hawaii; new varieties of mangos, taros, and bananas from various parts of the world, and the Huasco seedless raisin grape from Chile.

DAVID FAIRCHILD,  
*Agricultural Explorer in Charge.*

OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION,  
*Washington, D. C., May 26, 1908.*



# INVENTORY.

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## 19058. *PERSEA GRATISSIMA*.

**Avocado.**

From Guatemala. Received through Mr. G. N. Collins, of the Bureau of Plant Industry, in the summer of 1906.

Seeds of a thick-skinned variety.

## 19060 and 19061.

From Manila, P. I. Presented by Mr. W. S. Lyon, of the Bureau of Agriculture. Received July 30, 1906.

19060. *LAGENARIA VILLOSA*.

19061. *GLIRICIDIA MACULATA*.

## 19062. *CARICA PAPAYA*.

**Papaw.**

From Manila, P. I. Presented by Mr. W. S. Lyon, of the Bureau of Agriculture. Received August 1, 1906.

"Seed selected from splendid and typical Malay peninsula fruits." (*Lyon.*)

## 19079 to 19082. *PERSEA GRATISSIMA*.

**Avocado.**

From Guatemala. Received through Mr. G. N. Collins, of the Bureau of Plant Industry, in the summer of 1906.

Plants.

## 19083 to 19085. *DANTHONIA SEMIANNULARIS*. Wallaby grass.

From Wellington, New Zealand. Presented by Mr. T. W. Kirk, biologist, New Zealand Department of Agriculture. Received August 6, 1906.

"Seed of three local varieties. There is no special distinction between them, they being merely local forms." (*Kirk.*)

19083. (No. 103/0.)

19085. (No. 103/D.)

19084. (No. 103/11.)

## 19086. *XANTHOSOMA* sp.

**Yautia.**

From Mexico. Received through Dr. J. N. Rose, of the U. S. National Museum, in the summer of 1906.

## 19087. *PACHIRA* sp.

From Costa Rica. Received through Prof. H. Pittier, of the Bureau of Plant Industry, in the summer of 1905.

## 19088. *VITIS VINIFERA*.

**Grape.**

From Coquimbo, Chile. Presented by Mr. Andrew Kerr, United States consular agent, through Mr. David Fairchild, August 10, 1906.

*Huasco Seedless*. "These cuttings represent the very best grown in the Huasco or Vallenar district. I would advise, however, that the seedless raisin comes rather from the exuberant growth of the plant than from a distinct species. Owing to the excessive quantity of grapes on the bunch, only some become full grown and the stunted ones only are mostly seedless." (*Kerr.*)



**19089 and 19090. MANGIFERA INDICA.****Mango.**

From Miami, Fla. Received through the Subtropical Laboratory and Garden, August 10, 1906.

19089. *Mulgoba*.19090. *No. 11*.**19093. GNETUM GNEMON.**

From Buitenzorg, Java. Presented by Dr. M. Treub, director of the Department of Agriculture, through Mr. Walter Fischer. Received August 15, 1906.

"A tree of erect habit growing in the East Indian Archipelago, where it is frequently cultivated; fruits edible. The leaves are also eaten when boiled, while cordage is made from the bast of the trunk. Imported not for its economic value, but for the interesting problems in morphology which it presents." (*Fischer*.)

**19094. PERSEA GRATISSIMA.****Avocado.**

From Key Largo, Fla. Received through Mr. Edward Gottfried, August 15, 1906.

Seeds of a type of avocado described as follows:

"Shape, ovoid to roundish, obliquity marked. Seed medium, fitting very tightly in cavity and having a closely adherent seed coat which does not remain attached to cavity wall upon removal of seed. Flesh comparatively thick, practically fiberless; relatively large proportion of 'green.' Flavor medium to good. Skin more granular than leathery, thickish, separating readily from pulp. Name suggested for this variety, '*Gottfried*.'" (*Burgett*.)

**19095. XANTHOSOMA sp.****Yautia.**

From Santa Barbara, Cal. Presented by Dr. F. Franceschi, of the Southern California Acclimatization Society. Received August 17, 1906.

"Offsets of the Linares, N. L., Mexico, yautia. Probably identical with S. P. L. No. 17149." (*Burgett*.)

**19096 and 19097.**

From Dehra Dun, India. Received through Mr. Frank Benton, apicultural investigator, U. S. Department of Agriculture, August 16, 1906.

19096. *CASSIA* sp.

"Seeds of a tree commonly grown for ornament and shade on the plains of India and up to an altitude of 3,500 feet; bears large yellow blossoms." (*Benton*.)

19097. *TERMINALIA ARJUNA*.

"A shade and ornamental tree growing commonly in the plains—the hottest portions of India. It will also grow at an elevation of 4,000 feet in India, but will not stand severe cold. The wood is useful and the blossoms, which are very sweet scented, are freely visited by bees for honey. The seed is very difficult to germinate. Probably it should be plunged into boiling water." (*Benton*.)

**19098 to 19103. ORYZA SATIVA.****Rice.**

From Amami, German East Africa. Presented by Prof. Dr. A. Zimmermann, of the Biologisch Landwirtschaftliches Institute. Received August 20, 1906.

A collection of rice samples, the first five of which are from Neu Lanzenburg, Tenyika District, and the last one from Ujiji, German East Africa. The numbers in parentheses are those assigned by Doctor Zimmerman.

19098. *Sihara*. (No. 138.)19101. *Guindimba*. (No. 143.)19099. *Hadji jakunjwa*. (No. 139.)

19102. (No. 144.)

19100. *Mpungara*. (No. 142.)

19103. (No. 145.)

**19104. PORTULACARIA AFRA.****Spek-boom.**

From Pretoria, Transvaal. Presented by Prof. J. Burt Davy, of the Transvaal Department of Agriculture. Received August 20, 1906. (Professor Davy's No. 87/06.)

"A fleshy, round-leaved, scrubby, soft-wooded tree or bush which is recognized as a very valuable food plant for sheep, cattle, and even horses. Successful efforts have been made to grow it in Namaqualand from cuttings. As these are liable to rot when put in green and nearly severed, they should be spread out for a fortnight to allow the wounds to dry. Where animals are well fed and pampered they sometimes lose taste for this excellent natural food. In the neighborhood of Oudtshoern, on a farm where in the spring of 1895 ostriches were dying in hundreds, clumps of spek-boom were within easy reach, but the birds would not touch it, having been accustomed to feed on lucern. Nevertheless, when birds are brought up to eat it, they thrive well and seem fond of it. The spek-boom is a bush which revives rapidly from the injury done by too close browsing by stock if a season's respite be granted to it. When spek-boom and *Mesembrianthemum floribundum* are present, stock care but little about their daily visits to the water-vlei." (Wallace. *Farming Industries of Cape Colony*, p. 88.) (See also S. P. I. No. 12020.)

**19105. ILEX PARAGUAYENSIS.**

From Buenos Aires, Argentina. Presented by Hon. Carlos Thays, director, Government Botanical Gardens. Received August 6, 1906.

Native name *Yerba mate*.

**19106 to 19110.**

From Sydney, New South Wales. Presented by Hon. W. S. Campbell, director, New South Wales Department of Agriculture. Received August 20, 1906.

19106. PENNISETUM SPICATUM.

Pearl millet.

19107. ANDROPOGON SORGHUM.

Sorghum.

19108. ANDROPOGON SORGHUM.

Sorghum.

*Planter.*

19109. ANDROPOGON SORGHUM.

*Early Amber Sugar Cane.*

19110. ANDROPOGON SORGHUM.

Kafir corn.

**19111 to 19115.**

From Coronel, Chile. Presented by Mr. Teodoro Finger. Received August 20, 1906.

19111. ACACIA CAVENIA.

"Spanish name *Espino chileno*. From central Chile; grows on very dry ground. Its timber is highly esteemed and considered the best for charcoal." (Finger.)

"The *Espino* of the present inhabitants of Chile, the *Cavan* of the former population. A small tree with exceedingly hard wood, resisting underground moisture. The plant is well adapted for hedges. The husks contain 32 per cent tannin, particularly valuable as dye material." (F. v. Mueller.)

19112. EMBOTHRUM COCCINEUM.

Firebush.

"Araucanian name *Notra*. A large, high bush from the south of Chile; of great popularity on account of the large bunches of bright scarlet-red blossoms on each branch. The foliage of long, dark-green leaves is also very ornamental. This bush grows with preference in clayish soil and is found in every garden and park as a favorite plant." (Finger.)

"From Chile to the Straits of Magellan. The *Notra* (Araucanian) or *Ciruelillo* (Spanish), a tree of exquisite beauty, but seldom reaching above 30 feet in height. The wood is utilized for furniture." (F. v. Mueller.)

## 19111 to 19115—Continued.

19113. *ARISTOTELIA MACQUI*.

"Spanish name *Maqui*. A beautiful evergreen bush or tree which produces a small, reddish black fruit of the size of a pepper. The juice of this fruit is used for coloring wine, and is therefore imported in large quantities to Europe, Argentina, and Peru. It has a sweet-acid taste. The plant prefers alluvial soil along river banks and would pay to be cultivated." (*Finger*.)

"The berries of this plant though small have the pleasant taste of bilberries and are largely consumed in Chile. The plant would thrive in mild forest valleys." (*F. v. Mueller*.)

19114. *SAXEGOTHAEA CONSPICUA*.

"Spanish name *Maniu*. This is one of the prettiest Chilean forest trees, growing to a height of 18 meters in dense forests. It is a tree greatly appreciated for its ornamental value in the south of Chile." (*Finger*.)

"The *Mahin* of southern Chile and Patagonia. A medium-sized tree with fine-grained, yellowish timber." (*F. v. Mueller*.)

19115. *GUEVINA AVELLANA*.

Chilean nut.

"Spanish name *Avellana*. This is a tree of great beauty and worth cultivating for its splendid dark green foliage and red, edible fruits. I consider this one of the two prettiest Chilean forest trees. It blossoms and bears through the whole year. It should be planted in shady places and requires continual rains." (*Finger*.)

"The evergreen hazel tree of Chile, extending to the Chonos Archipelago (45° lat. south). One of the most beautiful trees in existence, attaining a height of 30 feet. The snowy white flower spikes are produced simultaneously with the ripening of the coral-red fruit. In the colder southern regions the tree attains considerable dimensions. The wood is tough and elastic and used partly for boat building." (*F. v. Mueller*.)

19116. *GOSSYPIMUM HIRSUTUM*.

Cotton.

From Deesa, Rajputana, India. Received through Mr. Frank Benton, apicultural investigator, U. S. Department of Agriculture, July 20, 1906.

"(No. 84.) Tree cotton seed. The tree reaches, under favorable conditions, 4 to 5½ feet six months after planting seed; yields the first year 400 to 800 pounds of cotton per acre and four times this after the second year, or 5 to 10 pounds per tree of clean cotton during twenty years or over. Said to have been ranked in Liverpool markets by experts as superfine; white staple, 1½ to 1¾ inches in length; value ½ penny per pound above American middling." (*Benton*.)

19117 and 19118. *MANGIFERA INDICA*.

Mango.

From West Palm Beach, Fla. Received through Mr. John B. Beach, August 23, 1906.

19117. *Fernandez*.19118. *Goa Alfoos*.19119. *ARISAEMA MACROSPATHUM*.

From Cuernavaca, Mexico. Presented by Mr. C. G. Pringle, August 27, 1906.

"Corms collected in the 'Pedregal,' near Cuernavaca." (*Pringle*.)

19120. *BETA MARITIMA*.

From Sicily. Presented by Dr. Carl Sprenger, Hortus Botanicus Vomerensis, Naples-Vomero, through Mr. David Fairchild. Received August 27, 1906.

"*Beta cicla* seeds from Sicily, collected in a wild state and never before cultivated. It is said to be true *Beta cicla*, but I believe it is the true *Beta maritima* really in a wild state, whilst the *cicla* is more escaped." (*Sprenger*.)

**19142 and 19143. XANTHOSOMA spp.****Yautia.**

From Northern Colombia. Presented by Prof. H. Pittier, of the Division of Botany. Received August 31, 1906.

"Rhizomes of two undetermined varieties of yautias which were collected in the Sierra Nevada de Sta. Marta, Colombia, near the Köggaba village of San Andrés, at about 1,200 m. above sea level. The plant is cultivated by the Indians, although not extensively, under the name of *mundí*, or *mi-indí*. The Spanish people call it *malanga*. In the Cauca Valley that same *Xanthosoma*, or one very like it, is called *rascadera*, a very striking coincidence with the Nahautl word *quequeque*, applied to the same plant in some parts of Central America, the meaning of which is 'that which causes itching,' while *rascadera* signifies 'that which causes one to scratch.'

"The Köggaba Indians cultivate *Xanthosoma* in the garden-like fields around their houses in isolated plots, mixed in with corn, cane, cotton, coffee, coca, yuca (Manihot). They do not seem to use it to any extent." (Pittier.)

**19145. CASTALIA MEXICANA.**

From City of Mexico, Mexico. Received through Dr. J. N. Rose, of the U. S. National Museum, September 4, 1906.

"(No. 06/1044.) Roots of a beautiful plant with rose-colored sepals and pale-yellow flowers, opening in the afternoon." (Rose.)

**19146 and 19147. PERSEA GRATISSIMA.****Avocado.**

From Querétaro, Mexico. Presented by Sr. M. M. Urquiza. Received September 4, 1906.

Cuttings of two unnamed varieties.

**19148 to 19150.**

From Georgetown, British Guiana. Presented by Mr. Donald Mitchell, U. S. vice and deputy consul, through Mr. O. W. Barrett. Received September 4, 1906.

**19148. CALADIUM sp.**

Native name *Bush hog beena*.

**19149 and 19150. XANTHOSOMA spp.****Yautia.**

19149. A variety having yellow tubers.

19150. A variety having white tubers.

**19151. PERSEA GRATISSIMA.****Avocado.**

From Campeche, Mexico. Presented by Mr. F. Foex. Received September 4, 1906.

"Though coming from a hot country, it was fine and delicate, very big, and of good shape." (Foex.)

**19152 to 19166.**

From Piracicaba, São Paulo, Brazil. Presented by Dr. J. W. Hart, director of the Agricultural College. Received June 6, 1906.

**19152. MELINIS MINUTIFLORA.****Molasses grass.**

"(No. 1.) Purchased from a grower under the name of *Catengueiro roxa* (red), but appears to be nearly all *Catengueiro blanca* (white), which is not as valuable as the former. Our principal winter grazing grass." (Hart.)

**19153. PASPALUM DENSIFLORUM.**

(Hart's No. 2.)

## 19152 to 19166—Continued.

19154. *PANICUM MAXIMUM*. Guinea grass.  
 "(No. 3.) Local name *Capim Guiné da Bahia*." (Hart.)

19155. *CHAETOCHELOA* sp.  
 "(No. 4.) Probably of little or no value." (Hart.)

19156. *LEPTOCHELOA GRACILIS*.  
 "(No. 5.) Eaten by animals with relish." (Hart.)

19157. *PANICUM MAXIMUM*. Guinea grass.  
 "(No. 6.) Local name *Grama colonia*. Much esteemed for hay and pasture. Grows 2 meters high on good land." (Hart.)

19158. *TRICHOLAENA ROSEA*.  
 "(No. 7.) Local name *Favorita*. A splendid variety for hay." (Hart.)

19159. *CASSIA* sp.  
 "(No. 26.) A legume found growing on uncultivated land; shrub about 0.75 meter high; doubtless owing to the renovating effect of this and related species the high fertility of the soil here is partly due." (Hart.)

19160. *CASSIA* sp.  
 "(No. 27.) Shrub about 0.6 meter high. Similar to preceding number." (Hart.)

19161. *CASSIA* sp.  
 "(No. 28.) A leguminous annual shrub, about 60 centimeters high, bearing an enormous crop of seed. Found on borders of cultivated fields and in pastures. Not eaten by stock." (Hart.)

19162. *ANDROPOGON HALEPENSIS*. Johnson grass.  
 "(No. 29.) An indigenous grass similar to Amber sorghum cane when growing." (Hart.)

19163.  
 "(No. 30.) A leguminous vine growing wild in abandoned fields." (Hart.)

19164. *CHAETOCHELOA* sp.  
 "(No. 31.) A large, coarse grass growing in open places in forests; eaten by horses. Its robust habit and strikingly veined blades would suggest its trial as an ornamental grass." (Hart.)

19165. *PANICUM* sp.  
 "(No. 33.) A grass found growing sparingly in the shade; not cultivated." (Hart.)

19166. *PANICUM* sp.  
 "(No. 34.) A grass found on the margin of the forest on somewhat moist soil; probably of no agricultural value." (Hart.)

19167. *PERSEA GRATISSIMA*. Avocado.  
 From Querétaro, Mexico. Presented by Sr. M. M. Urquiza. Received September 7, 1906.

Seed.

19168. *ORYZA PUNCTATA*. Rice.  
 From Ujiji, German East Africa. Presented by Dr. G. Schweinfurth, Berlin, Germany, through Mr. David Fairchild. Received August 27, 1906.

Wild rice to be used in breeding experiments for the production of more disease-resistant varieties.



## 19169 to 19172.

From Dominica, British West Indies. Presented by Mr. A. Hyatt Verrill.  
Received September 8, 1906.

19169. *TRIMEZIA LURIDA*.

19170. *ZEPHYRANTHES TUBISPATHA*.

19171. *XANTHOSOMA* sp.

Yautia.

A yellow variety.

19172. *XANTHOSOMA* sp.

Yautia.

A white variety.

19173. *CASTALIA GRACILIS*.

From Mexico City, Mexico. Received through Dr. J. N. Rose, of the U. S. National Museum, September 6, 1906.

"(No. 06/1,076.) Nearly spherical roots from  $\frac{1}{2}$  to 1 inch in diameter and of a black color." (*Rose*.)

19174. *PARTHENIUM ARGENTATUM*.

Guayule.

From Saltillo, Mexico. Presented by Mr. Victor L. Duhaime, American consul, through Mr. David Fairchild. Received August 28, 1906.

Seed for use in germination experiments with a view to finding out whether this plant will adapt itself to irrigated or alluvial lands.

19175. *NEPHELIUM LONGANA*.

Longan.

From Oneco, Fla. Presented by Mr. E. N. Reasoner. Received September 1, 1906.

Seeds for experiments in raising stock upon which to graft the litchi.

## 19178 to 19182.

From Piracicaba, São Paulo, Brazil. Presented by Dr. J. W. Hart, director of the Agricultural College. Received September 1, 1906.

19178. *HYMENAEA STIGNOCARPA*.

This tree probably resembles *H. courbaril* of tropical South America, famous for its valuable, hard, close-grained, heavy timber and its fragrant amber-like resin, known as West Indian copal. In this species the beans are also lodged in a mealy pulp of honey-like taste, which can be used for food.

19179. *LUEHEA SPECIOSA*.

One of a genus of Tiliaceae trees and shrubs with handsome white or rosy flowers borne in terminal panicles or in the axils of the leaves.

19180. *BAUHINIA FORFICATA*.

19181. *MUCUNA NIVEA*.

"Similar to the Florida velvet bean but later and more robust; produces an enormous growth of vines. The beans grow in long clusters, one to five in a pod; the clusters sometimes reach a length of 1 meter and contain as high as seventy pods. I have been told that this vine lives for three or four years." (*Hart*.)

19182. *NICOTIANA TABACUM*.

Tobacco.

*Havana*.



## 19183 to 19192.

From Manchuria. Received through Mr. F. N. Meyer, agricultural explorer, August 28, 1906.

A collection of seeds, as follows:

## 19183. GLYCINE HISPIDA.

Soy bean.

From Newchwang. "(No. 255a.) A small variety of the black soy bean. Used to make bean oil from, the remaining expressed material, known as bean cake, being exported to Japan and southern China as a very valuable fertilizer." (*Meyer.*)

## 19184. GLYCINE HISPIDA.

Soy bean.

From Newchwang. "(No. 256a.) A large variety of the black soy bean. This is a very rare variety and is used for food: also for making a superior oil." (*Meyer.*)

## 19185. PHASEOLUS ANGULARIS.

Adzuki bean.

From Newchwang. "(No. 257a.) A small, ovoid, yellowish bean; sold in Newchwang as a food for the Chinese. Seems to be unknown in other parts of China." (*Meyer.*)

## 19186. GLYCINE HISPIDA.

Soy bean.

From Newchwang. "(No. 258a.) A medium-sized, greenish soy bean. This variety is the one most commonly used to extract bean oil from, the remaining yellow material, in the form of large, flat cheeses, being exported to different parts of Japan and especially to southern China as a very valuable fertilizer." (*Meyer.*)

## 19187. ANDROPOGON SORGHUM.

Sorghum.

From Newchwang. "(No. 259a.) Chinese name *Kauliang*. A brown-colored variety of sorghum said to be grown on the rather alkaline lands around Newchwang." (*Meyer.*)

## 19188. ORYZA SATIVA.

Rice.

From Newchwang. "(No. 260a.) A reddish variety of dry-land rice obtained from the magistrate of Hai-tcheng, Mr. Kuan Fing Ho, through the efforts of the American consul-general, Mr. M. T. Simmons, at Newchwang. As the city of Hai-tcheng is situated close to latitude 41°, this rice may be expected to succeed in the New England States, but it certainly will grow in the Middle Western States." (*Meyer.*)

## 19189. PHASEOLUS VULGARIS.

Bean.

From Shan-hai-kwan, China. "(No. 261a.) A rosy colored variety of a bush haricot bean which is eaten green as a vegetable." (*Meyer.*)

## 19190. PHASEOLUS VULGARIS.

Bean.

From Shan-hai-kwan. "(No. 262a.) A light brown colored variety of a bush haricot bean; used as a vegetable in the green state." (*Meyer.*)

## 19191. PHASEOLUS VULGARIS.

Bean.

From Shan-hai-kwan. "(No. 263a.) A red-brown colored variety of a climbing haricot bean; used as a vegetable when green." (*Meyer.*)

## 19192. PHASEOLUS VULGARIS.

Bean.

From Kau pan-tze. "(No. 264a.) A dark, red-brown colored variety of a climbing haricot bean; used as a vegetable when green." (*Meyer.*)

## 19193 to 19195. ORYZA PUNCTATA.

From West Africa. Received from Dr. Christian von Liszewski, Marseille, France, through Mr. David Fairchild, September 1, 1906.

## 19193.

"*Konkoi*. Marsh rice. Plant rough; vigorous; stem stout; little subject to lodging; heavy bearer. Period of growth from five to six months;

**19193 to 19195—Continued.**

relatively early; very robust; little subject to attacks of fungous diseases; very much valued by the natives for food. This variety requires very little cultivation. It must be sown a month and a half or two months before the end of the rainy season. The submerged fields are very prolific for this kind of rice." (*Liszewski.*)

**19194.**

"*Talifori.* Mountain rice. Plants strong, of medium height; early. Period of growth from three to four months, which allows the natives to harvest two crops of this rice in one season. Sown in May or June, a month and a half before the end of the rainy season; last sowing in August and September. It is a good yielder. The rice is valued by the natives for food and is considered the most nutritious of the mountain rices. According to tradition this rice is the most ancient of all the rices of Africa and is very characteristic of the region west of French West Africa." (*Liszewski.*)

**19195.**

"*Kontondi.* Valley rice. Plants tall, vigorous, slightly rough; straw slightly hollowed; requires a dry seed bed; absorbs much of the nitrogenous matter of the soil; is a prolific bearer and must not be sown two years in succession in the same place. As a food this variety of rice is not valued by the natives, so that it would be difficult to procure, since it grows very far from the routes of travel." (*Liszewski.*)

**19196. PERSEA GRATISSIMA.****Avocado.**

From Parras de la Fuente, Coahuila, Mexico. Presented by Dr. A. Walther, through Mr. O. W. Barrett, September 17, 1906.

Cuttings of a hardy avocado.

**19197 to 19199. NICOTIANA TABACUM.****Tobacco.**

From Manila, P. I. Presented by Mr. W. S. Lyon, of the Bureau of Agriculture. Received September 17, 1906.

**19197.**

"*Daluzon.* A variety with large, wide leaves." (*Lyon.*)

**19198.**

"*Espada.* A variety with narrow, thick leaves." (*Lyon.*)

**19199.**

"*Marugui.* A variety with large, broad, thin leaves." (*Lyon.*)

**19203. IPOMOEA HORSFALLIAE BRIGGSÆ.**

Plants propagated in the Department greenhouse. Numbered, for convenience in recording distribution, September 19, 1906.

**19204. CRYPTOSTEGIA GRANDIFLORA.**

From Bahama Islands, British West Indies. Received through Mr. G. N. Collins, of the Bureau of Plant Industry. Numbered, for convenience in recording distribution, September 19, 1906.

Seedlings grown from seeds obtained from fruits which were sent to Mr. Collins for determination.

**19205. CENTROLOBIMUM ROBUSTUM.**

From Piracicaba, São Paulo, Brazil. Presented by Dr. J. W. Hart, director of the Agricultural College. Received September 20, 1906.

**19206. PERSEA GRATISSIMA.****Avocado.**

From Parras de la Fuente, Coahuila, Mexico. Presented by Dr. A. Walther, through Mr. O. W. Barrett, September 20, 1906.

"Seeds of a green-fruited variety; probably identical with budwood sent under No. 19196." (*Barrett.*)

**19213 to 19216.**

From Manila, P. I. Received through Mr. W. S. Lyon, of the Bureau of Agriculture, September 24, 1906.

**19213. ANDROPOGON SORGHUM.****Sorghum.**

Variety *negrosense*.

**19214. ANDROPOGON SORGHUM.****Sorghum.**

Variety *negrosense erythrinum*.

**19215. AFZELIA RHOMBOIDEA.****"Tindalo."**

"One of our choicest hardwood timbers." (*Lyon.*)

**19216. DIOSPYROS DISCOLOR.**

"This is a beautiful tree and has the most attractive and luscious looking fruit I know of, comparable only to a large, velvety, Indian, blood peach. As for taste—well, there is a time-worn French proverb that most people apply—'I like it, but then i am not a competent judge.'" (*Lyon.*)

**19217 to 19225.**

From Paramaribo, Dutch Guiana. Presented by Dr. J. J. Van Hall, Director of Agriculture, through Mr. O. W. Barrett, September 25, 1906.

**19217 to 19219. XANTHOSOMA spp.****Yautia.**

19217. *Surinam.*

19219. (Not labeled.)

19218. (Not labeled.)

**19220. COLOCASIA SP.****Taro.**

*Wittie.*

**19221 to 19225. XANTHOSOMA spp.****Yautia.**

19221. *Koso.*

19224. *Sinesie.*

19222. *Abo.*

19225. *Finga.*

19223. *Redie.*

**19226. DIOSPYROS TEXANA.**

From Falfurrias, Tex. Collected by Mr. David Fairchild, August 8, 1906.

Seeds for hybridizing experiments. "Tree reaches a height of 30 feet; fruit globose, black, and luscious." (*Gray.*)

**19228. ARTOCARPUS INCISA.****Breadfruit.**

From Ancon, Canal Zone, Panama. Received through Mr. H. F. Schultz, September 27, 1906.

**19240. MEDICAGO SATIVA.****Alfalfa.**

From Callao, Peru. Presented by Mr. Joseph C. Cree, U. S. consul. Numbered October 2, 1906.

**19241. TACCA PINNATIFIDA.****Fiji arrowroot.**

From Honolulu, Hawaii. Received through Mr. Jared G. Smith, Agricultural Experiment Station, October 4, 1906.

Hawaiian name, *Pia*.

**19242. PASPALUM DILATATUM.****Large water-grass.**

From Central Bucca, New South Wales. Received through Mr. W. Seccombe, September 10, 1906.

**19245 to 19257.**

From Waroona, West Australia. Presented by Mr. Geo. F. Berthoud, State Farm, Hamel. Received September 6, 1906.

19245. *DANTHONIA* sp. Wallaby grass.

19246. *ANTHISTIRIA CILIATA*. Kangaroo grass.

19247. *PANICUM DECOMPOSITUM*.

19248. *DANTHONIA* sp. Wallaby grass.

A tall, slender variety.

19249. *PANICUM FLAVIDUM*.

19250. *DANTHONIA* sp. Wallaby grass.

A dwarf variety.

19251. *DANTHONIA* sp.

A variety from Collie River.

19252. *ANDROPOGON BOMBYCINUS*.

19253. *DANTHONIA* sp. Wallaby grass.

19254. *ANDROPOGON ERINTHOIDES*. Satin top grass.

19255. *PANICUM PROLUTUM*.

19256. *DANTHONIA* sp. Wallaby grass.

19257. *ERAGROSTIS PILOSA*.

**19258 and 19259.**

From Mexico City, Mexico. Received through Dr. J. N. Rose, of the U. S. National Museum, October 8, 1906.

19258. *CASTALIA PRINGLEI*. Water lily.

"Rhizomes of a white-flowering variety." (*Rose.*)

19259. *BESCHORNERIA YUCCOIDES*.

"(No. 06/1,218.) A very rare ornamental plant; also contains a good fiber. A very near relative of *Furcraea*, which furnishes the best Mexican fiber. Grows at an altitude of 10,000 feet or more, along with the firs, spruces, pines, and oaks." (*Rose.*)

**19260. NYMPHAEA ELEGANS.****Water lily.**

From Harligen, Tex. Presented by Mr. Chester B. Davis, through Mr. David Fairchild, October 24, 1906.

"Roots and seed vessels collected from plants growing in a pond 1½ miles east from Lonsboro, north of the railroad." (*Davis.*)

**19261 to 19263. JUGLANS NIGRA × REGIA.****Walnut.**

From Tettington, Va. Secured by Mr. Walter Fischer, scientific assistant, October 9, 1906.

"This tree is growing on what was known as the Rowe farm, the property of Mr. Benjamin H. Harrison, opposite lower Brandon, near Tettington, on the James River. It is a magnificent specimen of its kind; a broad, spreading tree about 100 feet in height with a circumference of 33 feet 3 feet from the ground and of 25 feet 6 feet from the ground. At a height of 12 feet it divides into four large branches, three of which are larger than any forest trees in the vicinity. A short distance from this giant tree is another of the same kind.

## 19261 to 19263—Continued.

It is of the same height and general habit and about 2½ feet in diameter. This is said to have grown from a seed of the larger tree planted at the time of the civil war. Neither of these trees are very prolific bearers; the larger one is said to have borne about a peck of nuts while in its prime, but at the present time the crop does not amount to more than 2 dozen nuts; the other tree bore about half this quantity.

"The trees seem to have characteristics between those of our native black walnut, butternut, and the Persian walnut. The twigs, buds, and leaves resemble the last named; the outer rind of the fruit resembles that of our native black walnut and the nut itself inclines slightly toward that of the butternut. Both the outer and the inner husks of the nut are very thick shelled, and the kernel is very small in proportion. It has poor germinating powers, which probably indicates a hybrid weakness.

"No history of the large tree is available. It was described by Prof. J. T. Rothrock in *Forest Leaves*, vol. 2, p. 133, who suggests that it is a hybrid between *J. nigra* and *J. regia*. In spite of the strong resemblance of this tree to those parents, the fruit does not at all agree with hybrids which are known to have been bred from those two species (S. P. I. Nos. 21612 and 21710). This, however, may be a variation due to its hybrid origin. The abnormal length of the fruit of the James River hybrid suggests slightly the butternut (*J. cinerea*), but the younger of the two trees shows quite a tendency in its twigs to revert to *J. nigra*, although the nuts can not be distinguished from those of its parent.

"The size of these trees proves them to be of extraordinarily rapid growth, for allowing for them the natural rate of growth of our native walnuts it would be impossible to account for the origin of the larger tree as a hybrid between American and European species, as its size would indicate that it was planted perhaps before the settlement at Jamestown. It is in all probability, however, not more than 150 or 200 years old. Scions have been secured for grafting upon the native walnut as a possible rapid-growing timber tree to furnish the highly prized walnut lumber. Experiments by Mr. Luther Burbank in California in grafting hybrids upon the slower-growing native trees have shown that the scions stimulate the stock to even faster growth than themselves. Their rapid growth, hence, would present no obstacle to their propagation by grafting." (*Fischer*.)

19261. Nuts of both trees, mixed by accident.

19262. Scions of the parent tree.

19263. Scions of the second generation.

## 19264 to 19268.

From London, England. Received through James Veitch & Sons, October 13, 1906.

19264 to 19267. CRAMBEE MARITIMA.

Sea kale.

19264 and 19265. *Beddard's Improved*.

19266 and 19267. *Lily White*.

19268. CYNARA SCOLYMUS.

Artichoke.

*Globe*.

19269. BAMBUSA TULDA.

Bamboo.

From Sibpur, Calcutta, India. Presented by Mr. A. Gage, curator, Royal Botanic Garden. Received October 12, 1906.

(See also S. P. I. No. 21002.)

19270. COLOCASIA sp.

Dasheen.

From Paramaribo, Surinam. Presented by Mr. H. Polak, at the request of Dr. J. J. Van Hall, Director of Agriculture for the Dutch West Indies. Received October 13, 1906.

"Tubers of a new variety of tayer, called *Eksi-taja*, which means egg-tayer." (*Polak*.)



**19271. XANTHOSOMA sp.****Yautia.**

From Kingsville, Tex. Presented by Mr. John D. Harvey, October 13, 1906.

**19272. CYNARA SCOLYMUS.****Artichoke.**

From Paris, France. Received through Vilmorin-Andrieux & Co., October 16, 1906.

*Flat Brittany.*

**19273. DOLICHANDRONE RHEEDII.**

From Manila, P. I. Presented by Mr. W. S. Lyon, of the Bureau of Agriculture, October 12, 1906.

**19274 and 19275. ASPARAGUS spp.**

From Pretoria, Transvaal. Presented by Prof. J. Burt Davy, of the Transvaal Department of Agriculture. Received October 15, 1906. Imported for work in asparagus-breeding experiments.

**19274.** (Davy's No. 2968/1151/06.)

**19275.** (Davy's No. 1049/06.)

"Collected in the Ermelo District, on the high veld between 4,000 and 5,000 feet altitude, subject to a summer rainfall of 26 inches, with considerable heat, but a completely dry, cold winter of about five months' duration." (*Davy*.)

**19276. PINUS LONGIFOLIA.****Pine.**

From Jamaica Plain, Mass. Presented by Prof. C. S. Sargent, of the Arnold Arboretum. Received September 1, 1906.

"This is an Indian species and not the same as *P. roxburghii*, which is the same as *P. excelsa*." (*Sargent*.)

**19277. APIUM GRAVEOLENS (?)**

From Port Stanley, Falkland Islands. Secured by Mr. John E. Rowan, U. S. consul. Received October 18, 1906.

A wild celery introduced for breeding purposes with the cultivated forms.

**19279. SCIRPUS TUBEROSUS.**

From China. Received through Mr. John Tull, special agent, October 16, 1907.

Japanese nut *Kuro-kuwai*. "(No. 1.) Roots of a bulbous plant of Cyperaceae, growing wild in marshy places; also cultivated in paddy land for tubers. In winter they are dug and eaten either raw or boiled, resembling a chestnut in taste. In China starch is made from them and called *Batei-fun*. This is the Chinese variety which is largely imported into Japan to eat raw. These roots were purchased on the market in Yokohama, Japan." (*Tull*.)

**19282. LATHYRUS TINGITANUS.****Tangier scarlet pea.**

From Algiers, Algeria. Received through Dr. L. Trabut, October 19, 1906.

**19284 to 19287.**

From Tehuacan, Puebla, Mexico. Received through Dr. J. N. Rose, of the U. S. National Museum, October 22, 1906.

**19284.** BEAUCARNEA OEDIPUS, Rose.

"(No. 11220.) One of my new species and is one of the most remarkable desert plants I have ever seen." (*Rose*.)



## 19284 to 19287—Continued.

19285. *PISTACIA MEXICANA*.

(Rose's No. 11234.) "A small Mexican tree with pinnate leaves and dioecious flowers with no petals and five stamens; the small, somewhat compressed nut is edible. This species grows in the valley of the Rio Grande and Lower Pecos. It is of no economic value in its present state, but may prove to be very useful as a drought-resistant stock upon which to graft the finer varieties of pistache." (*Charles J. Brand.*)

19286. *SPIHAERALCEA UMBELLATA*.

"(No. 11244.) Has a rather large pinkish flower and forms a bush 10 to 12 feet high. It is often planted as an ornamental shrub in gardens at an altitude of from 4,000 to 5,000 feet in south Mexico." (*Rose.*)

19287. *PRUNUS CAPOLLIN*.

Wild cherry.

"(No. 11525.) Purchased in a Mexican market, where the dried fruits are sold. This *Prunus* often forms a very large tree." (*Rose.*)

19292. *CITRUS DECUMANA*.

Pomelo.

From Manila, P. I. Presented by Mr. W. S. Lyon, of the Bureau of Agriculture, October 23, 1906.

"Native name *Lukban*; a pomelo of good quality and large size." (*Lyon.*)

19293. *XANTHIOSOMA SAGITTIFOLIUM*.

Yautia.

From McKinley, Isle of Pines, Cuba. Presented by Mr. George F. Young, through Mr. O. W. Barrett. Received October 27, 1907.

*White Malanga.*

19294. *MANGIFERA INDICA*.

Mango.

From Oneco, Fla. Received through Mr. E. N. Reasoner, October 29, 1906.  
*Enuria.*

19297. *PERSEA GRATISSIMA*.

Avocado.

From Coconut Grove, Fla. Propagated at the Subtropical Laboratory and Garden, Miami, Fla., and numbered for convenience in recording distribution, November 3, 1906.

*Wester.* "(Lab. No. 551.) The seed was planted thirty-five years ago (1871) by John Thomas Peacock, but he can not recollect from where it came—probably, however, from Key West. The tree is now (November, 1906) 25 feet tall, with a spread of 28 or 30 feet and a diameter of 15 inches 1 foot above the ground, and is vigorous and thrifty. According to Mr. Peacock, the tree has been a heavy bearer every year since it began to bear." (*Wester.*)

19300 to 19366. *MUSA* spp.

From Mayaguez, P. R. Received from Mr. H. C. Henricksen, of the Agricultural Experiment Station, through Mr. O. W. Barrett, October 17, 1906.

19300 to 19313. *MUSA SAPIENTUM*.

Banana.

19300. *Canarias* (from No. 10965).

19301. *Canarias.*

19302. *Ingles.*

19303. *Chamaluco.*

19304. *Cenizo.*

19305. *Prieto.*

19306. *Chinese* (from No. 10965).

## 19300 to 19366—Continued.

19307. *Canarias* (from No. 9575), "*Datile*."

19308. (Not labeled.)

19309. *Chamaluco Pato*.19310. *Guaran*.19311. *Hart's Choice*.19312. *Golden*.19313. *Johnson* (Cuba).19314 to 19318. *MUSA CAVENDISHII*.

Banana.

19314. *Enano* (Porto Rico).19315. *Enano Doble* (?).19316. *Enano* (Cuba).19317. *China* (Jamaica).19318. *Cavendishii*.19319 to 19332. *MUSA SAPIENTUM*.

Banana.

19319. *Dominico*.19326. *Morado blanco*.19320. *Rosa*.19327. *Rubra*.19321. *Dátyl*.19328. *Apple* (Hawaii).19322. *Niño*.19329. *Apple* (2d) (Hawaii).19323. *Red Jamaica*.19330. *Manzano* (Cuba).19324. *Morado Colorado* (Cuba).19331. *Apple* (Jamaica).19325. *Morado*.19332. *Manzano*.19333 to 19342. *MUSA SAPIENTUM*.

Plantain.

19333. *Congo Colorado*.19338. *Plátano Morado*.19334. *Congo Blanco*.19339. *Plátano* "tres cientos."19335. *Congo Morado*.19340. *Chue Chumpa*.19336. *Congo Manila*.19341. *Plátano Negro*.19337. *Maricongo*.19342. *Plátano Hartón*.19343 to 19365. *MUSA* spp.

Banana.

19343. *Kapua* (Hawaii).19356. *Cinerea*.19344. *Brazilian* (Hawaii).19357. *Discolor* (Kew).19345. *Hau Moa* (Hawaii).19358. *Maas*.19346. *Lele* (Hawaii).19359. *Almeido*.19347. *Maole* (Hawaii).19360. *Dacca*.19348. *Hai* (Hawaii).19361. *Soosoo*.19349. *Kudjo Hudang*.19362. *Martabanica*.19350. *Martaban* (Calcutta).19363. *Lady-Finger* (Pashongar).19351. *Palembang*.19352. *Rajah*.19364. *Lady-Finger* (Jamaica).19353. *Ambon*.19354. *Kelat*.19365. *Tirabuzón*.19355. *Guindy*.19366. *MUSA TEXTILIS*.

Manila hemp.

*Abacá* (Philippine Islands).

**19367. AEGLE MARMELOS.****Bengal quince.**

From Honolulu, Hawaii. Received through Mr. J. G. Smith, of the Agricultural Experiment Station, November 5, 1906.

Sometimes called *Elephant Apple*, *Marcdo*, or *Bhel Fruit*.

**19368. HICORIA LACINIOSA.****Big shagbark hickory.**

From Columbia, Mo. Presented by Mr. C. C. Bateman, October 17, 1906.

**19369. NYMPHAEA sp.****Pond lily.**

From Harlingen, Tex. Presented by Mr. Chester B. Davis, November 6, 1906.

"These lilies are said to bear most beautiful flowers and very large ones. The leaves are larger than those of No. 19260. The two lots were not from the same locality." (*Davis*.)

**19370. SECHUM EDULE.****Chayote.**

From Sahillo, Mexico. Received through Mr. J. R. Silliman, October 30, 1906.

"A spiny variety of the Mexican chayote, secured for distribution among vegetable growers in the South as a possible new paying vegetable." (*Fairchild*.)

**19371. PERSEA INDICA.**

From Canary Islands. Presented by Dr. A. Robertson-Proschowsky, Nice, France. Received November 5, 1906.

(See notes to S. P. I. Nos. 14498 and 16133.)

**19373. PANICUM CURVATUM.****Ukoka grass.**

From Zanzibar, British East Africa. Presented by Mr. R. N. Lyne, director, Department of Agriculture. Received November 5, 1906.

"Native name *Ukoka*. The grass is a creeper; grows wild and luxuriantly on the plantations, all classes of stock being very fond of it. It is the only forage grass on this island gathered and supplied to stock. It enjoys a light loamy soil and requires abundant rain. I believe that in humid localities you would find it most valuable forage." (*Lyne*.)

**19376. MUSA SAPIENTUM.****Banana.**

From Oneco, Fla. Received through Mr. E. N. Reasoner November 12, 1906.

*Large Figure.*

**19377 to 19380. PERSEA GRATISSIMA.****Avocado.**

From Hawaii. Seedling avocados grown from seeds taken from fruits shipped to the Office of Pomological Investigations of the Bureau of Plant Industry in 1904; turned over to the Office of Seed and Plant Introduction and Distribution on November 7, 1906.

"The fruits from which these seeds were taken were of excellent quality, those of Nos. 19379 and 19380 being exceptionally fine. The quality of No. 19380 was, I think, the finest of any avocado I have tasted, notwithstanding its long journey in cold storage to San Francisco, express from there to Lodi, iced car from there to New York, and express from New York to Washington, which variable temperature and surroundings are, of course, likely to injure the flavor and quality of any such fruit." (*Taylor*.)

**19382. VITIS VINIFERA.****Grape.**

From Quetta, Baluchistan. Received through Mr. Frank Benton April 6, 1906.

"(No. 43.) Cuttings of a variety of grape described by the natives as large and white." (*Benton.*)

**19383. CYNARA SCOLYMUS.****Artichoke.**

From Algiers, Algeria. Received through Dr. L. Trabut November 14, 1906.

*Violet Provence*, "race precoce" (early strain).

**19384. CHRYSOPHYLLUM MAGALIS-MONTANA.**

From Pretoria, Transvaal. Presented by Prof. J. Burt Davy, of the Department of Agriculture. Received November 14, 1906.

"This is an ornamental evergreen shrub or small tree of the family Sapotaceae, common on stony outcrops, particularly in the 'Middle Veld' (below 4,000 feet altitude); and also on frostless ridges at about 6,000 feet near Johannesburg. It would appear to be sensitive to frost. The fruit is agreeably acidulous and most refreshing in hot weather. It is much used by the natives for making a 'Kaffir beer' and by the white people for preserves, jelly, and a kind of brandy. The 'pit' is too large, but perhaps this defect can be improved away. In any case, the tree is worth growing for ornament.

"In the 'Taal' it is called *Stem-vrugte*, because the fruit is borne nearly sessile on the stem and main branches.

"The tree tolerates great heat and light rainfall, say, 14 inches falling only in summer, with cold nights during winter and little or no rain for about six months." (*Davy.*)

**19385. CITRUS DECUMANA.****Pomelo.**

From Manila, P. I. Presented by Mr. W. S. Lyon, of the Bureau of Agriculture, November 13, 1906.

"Native *Lukban*, or pomelo, similar to that last sent (S. P. I. No. 19292); selected from a tree of more than ordinary prolificacy and superior fruit." (*Lyon.*)

**19386. CASUARINA EQUISETIFOLIA.****Beefwood.**

From Manila, P. I. Received through Mr. W. S. Lyon, of the Bureau of Agriculture, November 13, 1906.

"*Agoho*. Hardwood timber of rapid growth; endures, with us, remarkable extremes of drought and moisture." (*Lyon.*)

**19387 and 19388. CYNARA SCOLYMUS.****Artichoke.**

From Paris, France. Received through Vilmorin-Andrieux & Co., November 13, 1906.

19387. *Large Globe* or *Paris*.

19388. *Large Flat Brittany*.

**19390 to 19419.**

From China. Received through Mr. F. N. Meyer, agricultural explorer, at the Plant Introduction Garden, Chico, Cal., in the spring of 1906.

A collection of seeds, as follows:

**19390. GINKGO BILOBA.****Ginkgo.**

From Western Hills, near Peking. "(No. 54a, Nov., 1905.) A fine, spreading tree with leaves less strongly lobed than generally met with. Collected in an old temple garden." (*Meyer.*)

## 19390 to 19419—Continued.

19391. *PISTACIA CHINENSIS*.

From Wei-tsan Mountains, near Peking. "(No. 63a, Nov., 1905.) A very ornamental tree, growing to quite large dimensions; graceful outlines; large pinnate leaves; small leaflets. The carpellate trees apparently do not grow so large as the staminate trees; fruits very small. May be a good stock for the large-fruited pistaches." (*Meyer*.)

19392. *QUERCUS* sp.

From Chang-li. "(No. 64a, Oct. 13, 1905.) An ornamental oak with broad, glossy leaves; very much used for building purposes. Grows wild in the mountains." (*Meyer*.)

19393. *QUERCUS* sp.

Oak.

From Chang-li. "(No. 65a, Oct. 11, 1905.) A slender growing oak with rather long, serrated leaves looking somewhat like chestnut leaves. Used for poles and building material. Grows wild in the mountains near Chang-li." (*Meyer*.)

19394. *ZIZYPHUS SATIVA*.

Jujube.

From Peking. "(No. 91a, Oct., 1905.) Seeds of a very large variety of 'date' sold in the market. These fruits are well worth growing, tasting very sweet when dried, and are also nice to eat when fresh." (*Meyer*.)

19395. *DIOSPYROS LOTUS*.

Persimmon.

From Wei-tsan Mountains, near Peking. "(No. 94a, Nov., 1905.) A large variety of the wild persimmon; otherwise the same description applies to it as that given for No. 57a, S. P. I. No. 17906." (*Meyer*.)

19396. *LAGENARIA VULGARIS*.

Gourd.

From Hwal-jou. "(No. 97a, Nov. 6, 1905.) A pear-shaped gourd used for covering trellises." (*Meyer*.)

19397. *ZIZYPHUS SATIVA*.

Jujube.

From Pee-san. "(No. 98a, Oct. 26, 1905.) Seeds of an elongated fruited variety of the 'date'; very sweet and a heavy bearer." (*Meyer*.)

19398. *LAGERSTROEMIA INDICA*.

Crape myrtle.

From Western Hills. "(No. 102a, Nov., 1905.) Seeds of dark purple crape myrtles growing in old temple gardens." (*Meyer*.)

19399. *KOELREUTERIA PANICULATA*.

Varnish tree.

From Wei-tsan Mountains, near Peking. (No. 103a, Nov., 1905.)

19400. *ECONYMUS* sp.

From Tang-san. "(No. 110a, Oct. 25, 1905.) A very ornamental shrub loaded in the fall with white capsules and scarlet berries." (*Meyer*.)

19401. *AMPELOPSIS TRICUSPIDATA*.

Boston ivy.

From Wei-tsan Mountains, near Peking. "(No. 112a, Nov., 1905.) Should not be planted in a southern exposure unless shaded; where found wild they seem to prefer the northeast and also, although in a less marked degree, the northwest." (*Meyer*.)

19402. *QUERCUS* sp.

Oak.

From Shan-hai-kwan. "(No. 114a, Oct. 17, 1905.) A slender oak with very narrow leaves; produces good poles." (*Meyer*.)

19403. *DIOSPYROS KAKI*.

Persimmon.

From Peking. "(No. 121a, Oct. 2, 1905.) Seeds of a medium-sized persimmon, not much seen for sale here." (*Meyer*.)



## 19390 to 19419—Continued.

## 19404. ALBIZZIA JULIBRISSIN.

From Tang-san. "(No. 131a, Oct. 25, 1905.) A small-sized ornamental tree with very finely divided pinnate leaves; bears pinkish blossoms." (*Meyer.*)

## 19405. CRATAEGUS PINNATIFIDA.

Hawthorn.

From Tientsin. "(No. 147a, Nov. 22, 1905.) A large-fruited variety used for making very fine preserves. The trees are decidedly ornamental and highly deserve to be planted in parks in groups or as solitary specimens. See also No. 52a (S. P. I. No. 17882)." (*Meyer.*)

## 19406. PROSOPIS sp. ?

Mesquite bean.

From Honolulu, Hawaii. "(No. 150a, Sept. 9, 1905.) A shrub which supplies in its pods an excellent cattle food. Its wood is fine firewood, and when used for fence posts will last a long time. Grows on sandy or on dry wastes where nothing else will grow." (*Meyer.*)

## 19407. RHAMNUS sp.

Buckthorn.

From Shan-hai-kwan. "(No. 175a, Dec. 1, 1905.) A small Rhamnus growing from 3 to 5 feet high; has small leaves which turn to bronze hues in the fall. Might be of use as a small hedge plant, as the stems grow close together and are well furnished with spines." (*Meyer.*)

## 19408. CINNAMOMUM CAMPHORA.

Camphor tree.

From Tang-hsi, near Hanchau, Chehkiang. "(No. 220a, Feb. 28, 1906.) Seeds of some fine old camphor trees growing wild and also cultivated." (*Meyer.*)

## 19409. QUERCUS sp.

Oak.

From Hanchau. "(No. 222a, Mar. 3, 1906.) A few acorns of a tall, deciduous oak used for building purposes." (*Meyer.*)

## 19410. RHUS sp.

Sumac.

From Hanchau. "(No. 223a, Mar. 4, 1906.) Seeds of a sumac growing wild in the woods. Grows to a medium-sized tree when left alone, but on account of being chopped off is usually found as a bush." (*Meyer.*)

## 19411. ACER sp.

From near Hanchau. "(No. 225a, Mar. 6, 1906.) A very tall growing maple well adapted for use as an avenue tree." (*Meyer.*)

## 19412. (Undetermined.)

From Tang-hu. "(No. 226a, Mar. 1, 1906.) A vine growing along a hedge; may be an ornamental." (*Meyer.*)

## 19413. LONICERA JAPONICA.

Honeysuckle.

From Tang-hsi. "(No. 227a, Feb. 28, 1906.) A large-leaved variety." (*Meyer.*)

## 19414. CAESALPINIA sp. (?).

From Tang-hsi, near Hanchau. "(No. 229a, Mar. 1, 1906.) A very tough timber-producing tree used for making ax and spade handles. Seems to be a Caesalpinia or something closely related." (*Meyer.*)

## 19415. (Undetermined.)

From Tang-hsi. "(No. 230a, Mar. 1, 1906.) A bush which may prove to be ornamental; often becomes a small tree. Cuttings sent under No. 147 (S. P. I. No. 18471)." (*Meyer.*)



## 19390 to 19419—Continued.

## 19416. (Undetermined.)

From Tang-hsi. "(No. 231a, Mar. 1, 1906.) An ornamental, very densely headed, evergreen tree, not growing to large dimensions; leaves are rather small, but glistening green; bears black berries in the spring. The trunk of the tree is exceedingly spiny. It may do as a hedge plant in the mild-wintered regions of the United States." (Meyer.)

## 19417. SOLANUM DULCAMARA.

Nightshade.

From Wei-tsan Mountains, near Peking. "(No. 233a, Nov., 1905.) A climbing, hardy, perennial Solanum, sometimes used as an ornamental vine." (Meyer.)

## 19418. CLERODENDRON BUNGEI.

From Chang-li. "(No. 234a, Nov., 1905.) Black seeds given to me as being of an ornamental shrub." (Meyer.)

## 19419. GLEDITSIA sp.

From near Hanchau. "(No. 235a, Mar. 6, 1906.) A tall-growing tree with wide-spreading branches. May prove to be an ornamental tree." (Meyer.)

## 19420. CITRUS DECUMANA.

Pomelo.

From Manila, P. I. Presented by Mr. W. S. Lyon, of the Bureau of Agriculture, November 19, 1906.

"*Pomelo de China Lukhan*, a pomelo of superior quality, though slightly seedy." (Lyon.) (See also S. P. I. Nos. 19292 and 19385.)

## 19421 to 19423.

From Bangkok, Siam. Presented by His Excellency, Phya Akharaj Varadhara, minister of Siam to the United States. Received November 19, 1906.

## 19421 and 19422. DIOSCOREA sp.

Yam.

*Man Sow.*

## 19423. IPOMOEA BATATAS.

Sweet potato.

*Man-thes.*

"These yams are used by the people of Siam in much the same manner that ordinary potatoes are used in the West, i. e., they are boiled, fried, and roasted. The sprouts are cut off with a little of the body of the yam and planted. From this the new plant develops." (Edward Loftus, private secretary, Siamese Legation.)

## 19425 to 19428.

From northern Korea and Siberia. Received through Mr. F. N. Meyer, agricultural explorer, November 13, 1906.

## 19425. ZOYSIA PUNGENS.

Korean lawn-grass.

From near Ai-djou, north Korea. "(No. 470a, July 15, 1906.) A perennial grass growing but a few inches high, well adapted for lawn purposes. Needs mowing, in all probability, but once or twice a year and requires very little water. This grass was found in a very dry, exposed situation. Probably a very valuable grass." (Meyer.)

## 19426. ZOYSIA PUNGENS.

Korean lawn-grass.

From the banks of the Yalu, northern Korea. "(No. 471a, July 27, 1906.) The same grass as No. 470a (S. P. I. No. 19425), but from a moister locality. There were donkeys continually browsing upon this grass and considerable walking over it, but it was one green velvet turf, and as such will be excellent for golf links, lawns, etc." (Meyer.)

## 19425 to 19428—Continued.

19427. JUNCUS sp.

Rush.

From near Vladivostok, Siberia. "(No. 513a, Oct. 5, 1906.) A rush found growing in low, wet places in heavy, clayey soil. Has long, straight leaves from 3 to 4 feet long. Will probably be very valuable for matting manufacturing purposes. Can be grown far north. Sow the seeds on sterilized peaty soil. Keep the seed pot in a saucer of water and cover with glass." (Meyer.)

19428. JUNCUS sp.

Rush.

From near Vladivostok, Siberia. "(No. 514a, Oct. 6, 1906.) A rush found growing on rather dry soil; in all probability adapted for matting manufacture. Can probably be grown without standing water. Plants sent under Nos. 557 and 558 (S. P. I. No. 19480)." (Meyer.)

19429. PANICUM CRUS-GALLI.

Barnyard grass.

From Tegucigalpa, Honduras. Received through Dr. R. Fritzgartner, November 14, 1906.

"Locally called *Camalote*. This grass, or cane, grows very rapidly up to 7 or 8 feet in damp places. We have it here at a height of 6,000 feet, as well as on the coast, where it grows wild. The plant is one of the best nourishing grasses and is preferred by cattle and horses to any other plant we have here. The animals become very fat on it, and the plant is eaten up whether dry or fully grown. It is different from Honduras teosinte." (Fritzgartner.)

19430. JOANNESIA PRINCEPS.

From Piracicaba, São Paulo, Brazil. Presented by Dr. J. W. Hart, director, Agricultural College. Received June 7, 1906.

"(No. 19.) A large tree furnishing fine timber." (Hart.)

## 19457 to 19465.

From Moyabamba, Peru. Presented by Mr. Serafin Filomeno. Received November 12, 1906.

Seeds as follows, with notes by Filomeno:

19457. (Undetermined.)

Rubber.

*Mazaranduba*, cultivated rubber.

19458. (Undetermined.)

Rubber.

*Monisoba*, cultivated rubber.

19459. (Undetermined.)

Rubber.

*Yebe de Caballo Cocha*, from Loreto.

19460. (Undetermined.)

Rubber.

*Yebe de Balsapuerto*.

19461. (Undetermined.)

Rubber.

*Leche Caspi*. Wild rubber discovered by Mr. Filomeno.

19462. (Undetermined.)

Rubber.

*Guta Moyobombi*; not very abundant in resin; discovered by Mr. Filomeno.

19463. GOSSYPIUM sp.

Cotton.

Brown-fibered cotton.

19464. GOSSYPIUM sp.

Cotton.

White-fibered cotton.

19465. ZEA MAYS.

Corn.

A red variety.

## 19467 and 19468.

From Hoijo, near Kobe, Japan. Received through Mr. John Tull, special agent, November 13, 1906.

19467. *RAPHANUS SATIVUS*.

Radish.

"(No. 2.) This is the large white radish that is used so extensively by the Japanese. It is grated and served raw, as horseradish is, with meats, and is also cut up into small blocks about 1 inch square and pickled. I did not see it eaten raw in any large quantity, as we do the radish." (Tull.)

19468. *PHASEOLUS ANGULARIS*.

Adzuki bean.

"(No. 3.) A small red bean, supposed to mature three months after planting. The Japanese make a candy or cake, called *azuki*, *shiyozu*, and *youchau*, from these beans, which, when served with tea, is very refreshing, palatable, and satisfying. They boil the beans thoroughly; then by mixing them with water the preparation is strained through a fine cloth, separating the hulls. The bean part settles and leaves the water on top. The water is then poured off and the bottom, being mixed with sugar to the proper proportion, is boiled again and when cool hardens. It is then cut into small pieces 1 inch square and served." (Tull.)

## 19469 to 19480.

From eastern Siberia. Received through Mr. F. N. Meyer, agricultural explorer, November 24, 1906.

A collection of cuttings of trees and shrubs and roots of rushes, as follows:

19469. *SALIX* sp.

Willow.

From near Vladivostok. "(No. 537, Oct. 6, 1906.) A very tall growing willow with small, narrow leaves. Similar to No. 529 (S. P. I. No. 19527)." (Meyer.)

19470. *SALIX* sp.

Willow.

From near Vladivostok. "(No. 538, Oct. 6, 1906.) A bushy willow having long, slender branches and long, narrow leaves. Seems to be sand binding and forms dense thickets here and there along the Yalu." (Meyer.)

19471. *SALIX* sp.

Willow.

From near Vladivostok. "(Nos. 539 and 540, Oct. 6, 1906.) A low, somewhat crawling willow with broad, short leaves, found in a dry creek bed. Is very tough and can probably be utilized as a sand binder and also for basket making." (Meyer.)

19472. *SALIX* sp.

Willow.

From Okyansky. "(Nos. 541 and 542, Oct. 8, 1906.) A very tall growing willow with large, broad leaves. This is probably a variety of No. 537 (S. P. I. No. 19469)." (Meyer.)

19473. *SALIX* sp.

Willow.

From Okyansky. "(No. 543, Oct. 9, 1906.) A tall-growing, bushy willow, making straight shoots 8 feet long. May be of use in basket making. Grows on rather dry land and is in all probability a hybrid." (Meyer.)

19474. *SALIX* sp.

Willow.

From near Sedansk. "(Nos. 544 and 545, Oct. 7, 1906.) A low, bushy willow with very slender, tough branches having red-colored bark. An excellent tying material for use in the garden. Seems to prefer somewhat wet situations." (Meyer.)

## 19469 to 19480—Continued.

19475. *SALIX* sp.

Willow.

From near Sedansk. "(No. 546, Oct. 7, 1906.) A broad-leaved willow, growing mostly as a shrub, but seen here and there as a small tree; is found in very dry situations and usually between other shrubbery." (*Meyer.*)

19476. *ACANTHOPANAX SESSILIFLORUM*.

From near Sedansk. "(Nos. 547, 548, 549, and 550, Oct. 7, 1906.) An ornamental, hardy shrub, having palmately divided leaves and bearing on its somewhat spiny branches many short, dense umbels of brownish colored flowers, followed by blackish berries. Throws out many shoots from the roots, which do not fall in all directions, as many of our garden shrubs do." (*Meyer.*)

19477. *VITIS AMURENSIS*.

Grape.

From near Sedansk. "(Nos. 551 and 552.) Wild grapes, bearing small bunches of edible berries, found in dry and exposed places between shrubbery. They will probably prove to be a good stock in regions where climatic conditions are not favorable for grape culture." (*Meyer.*)

19478. *FRAXINUS* sp.

Ash.

From Okyansky. "(Nos. 553 and 554, Oct. 9, 1906.) A large-leaved ash, of use as an ornamental tree in parks and large gardens." (*Meyer.*)

19479. *ACTINIDIA KOLOMIKTA* (?).

From the mountains near Okyansky. "(Nos. 555 and 556, Oct. 8, 1906.) A tall, climbing actinidia, producing silver-tinted leaves among its masses of foliage." (*Meyer.*)

19480. *JUNCUS* sp.

Rush.

From near Vladivostok. "(Nos. 557 and 558, Oct. 6, 1906.) A rush growing on rather dry ground. Seems to be a very good one for matting manufacture. If so, could probably be grown in ordinary fields for this purpose and would, as such, do away with all the difficulties connected with the culture of wet-land rushes." (*Meyer.*)

19482. *TRITICUM VULGARE*.

Wheat.

From Histon, Cambridge, England. Presented by Prof. R. H. Biffen, of the Cambridge University Agricultural Experiment Station, through Prof. N. E. Hansen. Received November 1, 1906.

19484. *CELTIS RHAMNIFOLIA*.

Cambedoo stinkwood.

From Cape Town, South Africa. Presented by Mr. E. Hutchins, Conservator of Forests at Cape Town, through Prof. A. V. Stubenrauch, Berkeley, Cal. Received at the Plant Introduction Garden, Chico, Cal., December 2, 1905.

19485. *ANDROPOGON RUFUS*.

From Piracicaba, São Paulo, Brazil. Presented by Dr. J. W. Hart, director of the Agricultural College. Received November 20, 1906.

19486. *CANNABIS SATIVA*.

Hemp.

From Lexington, Ky. Received through Prof. H. Garman, of the Agricultural Experiment Station, November 30, 1906.

This seed is the first generation from Manchurian hemp seed produced in the district of Shinmintong, some 200 miles southwest of Kirin Province, and was grown from S. P. I. No. 18632 at the Agricultural Experiment Station, Lexington, Ky., during the season of 1906. The original seed from which this seed was grown was received May 29, 1906, from the Yokohama Nursery Company, Yokohama, Japan.

**19488. CANANGA ODORATA.****Ilang Ilang.**

From Hacienda Malunu, near Ilang, Isabela, P. I. Presented by Mr. George P. Ahern, Director of Forestry, through Mr. David Fairchild. Received December 1, 1906.

(See S. P. I. No. 20908 for remarks.)

**19489. PRUNUS ARMENIACA.****Apricot.**

From Kwang-ning, Manchuria. Received through Mr. F. N. Meyer, agricultural explorer, October 24, 1906.

"(No. 265a.) Seed of the common wild apricot, which grows all over the mountains near Kwang-ning. The natives use the seeds in giving some flavor to the water in which they boil certain cakes, but they say the seeds are quite poisonous." (Meyer.)

**19493 to 19495. GLADIOLUS spp.****Gladiolus.**

From Kew, England. Presented by Dr. David Prain, director, Royal Botanic Gardens. Received November 27, 1906.

Bulbs of wild species for use in hybridization experiments being conducted by Mr. T. H. Kearney.

19493. *GLADIOLUS DRACOCEPHALUS*.

19494. *GLADIOLUS PURPUREO AURATUS*.

19495. *GLADIOLUS SEGETUM*.

**19496. INDIGOFERA ARRECTA.**

From Pretoria, Transvaal. Presented by Prof. J. Burtt Davy, of the Department of Agriculture. Received November 19, 1906.

**19497. DIOSPYROS VIRGINIANA.****Persimmon.**

From Blainstown, Md. Presented by Mr. W. S. Swart. Received November 27, 1906.

Cuttings of a seedless variety.

**19498. CLERODENDRON FOETIDUM.**

From Wonsan, Korea. Presented by Mr. C. F. S. Bilbrough. Received October 22, 1906.

"Seeds of a shrub from which the Koreans make their far-famed paper. This is a very hardy, handsome shrub and will grow from cuttings, seeds, or root sets up to about 20 feet. The Koreans macerate the bark in hot water to a pulp and from the proceeds make a very strong paper." (Bilbrough.)

(Probably the same as S. P. I. No. 12768.)

**19499. LEUCADENDRON ARGENTEUM.****Silver tree.**

From Cape Town, South Africa. Presented by Mr. J. Wm. Lister, Acting Chief Conservator of Forests, Department of Agriculture. Received December 1, 1906.

(See S. P. I. Nos. 7556, 8317, and 9633.)

**19500 and 19501.**

From Ispahan, Persia. Received through Mr. John Tyler, U. S. vice consul general, Teheran, November 13, 1906.

19500. *GLYCYRRHIZA GLABRA*.

"The licorice grows wild and is largely exported to America, chiefly, I believe, for sweetening tobacco and possibly for mixing with porter." (Tyler.)



## 19500 and 19501—Continued.

## 19501. RUBIA TINCTORUM.

Madder.

"The madder, as you know, produces the red color used in Persia for dyeing the wool of which the red of the carpets is woven. I have a little rug in my house, upward of a hundred years old, of this dye, which is as bright now as when it was first woven. The Turkey reds were originally dyed from this root." (Tyler.)

## 19502. ASPARAGUS SCHOBBERIODES.

From Yokohama, Japan. Received through the Yokohama Nursery Company December 1, 1906.

Imported for experiments in the breeding of disease-resistant asparagus.

## 19503. AVENA FATUA.

From Ispahan, Persia. Received through Mr. John Tyler, U. S. vice consul general, Teheran, November 13, 1906.

"Seed found growing wild in the province of Ispahan, about 270 miles from Teheran, Persia." (Tyler.)

## 19504. CITRUS DECUMANA.

Pomelo.

From Shanghai, China. Presented by Mr. J. R. Huffaker, Brookfield, Mo. Received December 10, 1906.

"Seeds collected by Prof. W. A. Estes, 18 Quinsan road, Shanghai, China." (Huffaker.)

## 19505. CELTIS AUSTRALIS.

Hackberry.

From Tunis, Tunis. Presented by Mr. L. Guillochon, Director of Agriculture. Received December 4, 1906.

"One of the best avenue and shade trees in use in North Africa and Portugal." (Fairchild.)

## 19506 and 19507. TRIFOLIUM SUAVEOLENS.

Clover.

From northwestern India. Presented by Mr. Philip Parker, of the Indian Irrigation Service, through Mr. C. J. Brand, December 10, 1906.

## 19506.

*Daur Shaftal*. "This variety comes from the Tochi Valley, where it is commonly sown during the month of September and gives three cuttings of hay after December. This is probably one of the upright forms of *Trifolium repens*, similar to the one grown in the Po Valley, of northern Italy." (Scofield.)

## 19507.

*Farsi Shaftal* (Persian clover.) "This seed was obtained from Pannu (or Edwardesabad). No cultural notes accompanied this sample, but it is believed to be similar to the *Daur Shaftal*." (Scofield.)

"This species has been somewhat sparingly cultivated in European gardens on account of its fragrant pale-rose flowers. The seed sometimes occurs as an impurity in alfalfa, and when thus sown with alfalfa in the fall has been found to withstand the winters at Washington, D. C., perfectly. It is possible that this clover will be found useful for sowing in the late summer or early fall, after the manner of crimson clover. It shows, however, a great tendency to lodge badly on account of the weak, hollow stems." (C. V. Piper.)



**19509 to 19511. *MUSA* spp.**

From Santa Barbara, Cal. Presented by Dr. F. Franceschi, through Mr. O. W. Barrett. Received December 11, 1906.

19509. *MUSA MARTINI*.

19510. *MUSA RHODOCLAMYS*.

19511. *MUSA ENSETE*.

**19512. *HORDEUM HEXASTICHUM*.****Six-row barley.**

From Guelph, Ontario, Canada. Received from Prof. J. Buchanan, through Prof. C. A. Zavitz, November 27, 1906.

"A pedigreed barley of the Manchurian type; said to be an excellent producer." (*Zavitz*.)

**19513 and 19514. *CAPSICUM ANNUUM*.****Red pepper.**

From Tientsin, China. Received through Mr. F. N. Meyer, agricultural explorer, April 23, 1906.

19513.

A large, short-podded variety.

19514.

A long, narrow-podded variety.

**19516. *ASPARAGUS ACUTIFOLIUS*.**

From Nice, France. Presented by Dr. A. Robertson Proschowsky. Received December 12, 1906.

"I have continually been on the lookout for seedlings of *Asparagus acutifolius* L., the native species here, the tender shoots of which are eagerly gathered as a delicacy, but the plant is rather scarce in the little wood belonging to me, and it is, I believe, impossible to transplant it, at least when it, as here, grows in the rocks, sending its fleshy roots deep in the fissures. Young plants are exceedingly scarce, as are the seeds, and then it seems even the few seeds produced are destroyed by insect enemies.

"I nearly gave up the hope of finding young plants, and then going through the pot cultures I came on a plant which was growing in a pot. I have always given orders to save seedlings of this species when found working in the ground, and it must be such a plant. Thus it has come that at last I have had the great pleasure of being able to send you plants undoubtedly true to name. Perhaps you are right that even all the young seedlings I sent are also *A. acutifolius*, though I thought they were not." (*Proschowsky*.)

**19517 to 19521.**

From Alexandria, Egypt. Presented by Mr. V. F. Naggiar, through Mr. David Fairchild, November 6, 1906.

19517. *ANDROPOGON SORGHUM*.

**Sorghum.**

19518. *ANDROPOGON SORGHUM*.

**Sorghum.**

19519. *CICER ARIETINUM*.

**Chick-pea.**

19520. *VICIA FABA*.

**Horse bean.**

19521. *TRIGONELLA FOENUM-GRÆCUM*.

**Fenugreek.****19523 to 19531.**

From Manchuria, Korea, and eastern Siberia. Received through Mr. F. N. Meyer, agricultural explorer, December 1, 1906.

A collection of seeds, cuttings, and plants, the latter distinguishable from the seeds by the absence of the letter "a" following Meyer's number.

## 19523 to 19531—Continued.

## 19523. JUNCUS sp.

Rush.

From northern Korea. "(No. 472a, Sept. 2, 1906.) Seed of a *Juncus* found growing in a wet ditch; looks like *J. effusus*, but has longer, more slender leaves. Probably very valuable in matting manufacture. Will grow very far north, as the climate here is pretty cold in winter. Sow under glass on wet, peaty soil." (Meyer.)

## 19524. JUNCUS sp.

Rush.

From near Novo Kiowsk, Siberia. "(No. 473a, Sept. 10, 1906.) A *Juncus* with sledger leaves growing to be a yard long; found on salty, marshy land. May be valuable for matting manufacture. Sow the same as No. 472a (S. P. I. No. 19523)." (Meyer.)

## 19525. SCIRPUS sp.

From near Hunchun, Manchuria. "(No. 474a, Sept. 9, 1906.) A very tall *Scirpus* with leaves 4 to 5 feet long; found on marshy, peaty land. Sow the same as No. 472a." (Meyer.)

## 19526. JUNCUS sp. (?)

Rush.

From northern Korea. "(No. 475a, Sept. 6, 1906.) A *Juncus*-like plant found growing in muddy, submerged places. Probably too short for matting manufacture, as it grows only about a foot tall. Sow the same as No. 472a." (Meyer.)

## 19527. SALIX sp.

Willow.

From the mountains of northern Korea. "(No. 529, Sept. 1, 1906.) A very fine, valuable willow, being an ornamental tree as well as a lumber producer. Attains a height of from 80 to 100 feet. When young the bark is white coated like *Eucalyptus globulus*; when old it becomes shaggy and can be torn off in strips. Seed sent under No. 403a (S. P. I. No. 20128)." (Meyer.)

## 19528. ACTINIDIA KOLOMIKTA (?)

From the mountains of northern Korea. "(No. 530, Aug. 24, 1906.) Cuttings of an *Actinidia* having red and rosy colored leaves. This is a very ornamental climber, some of the leaves remaining light green, while others are wholly or partly colored." (Meyer.)

## 19529. PINUS KORAIENSIS.

Pine.

Young trees. From the forest of Bo-tau-shan, northern Korea. "(No. 533, Aug. 24, 1906.) A pine having bluish green foliage and bearing heavy cones, which contain edible seeds. This pine attains a height of over 150 feet; produces excellent lumber, making clean stems of 100 feet. May be of use for forestry or park purposes in the colder, moister regions of the United States. Cones sent under No. 333a (S. P. I. No. 20089)." (Meyer.)

## 19530. LARIX sp.

Larch.

Young trees. From the forest of Bo-tau-shan, northern Korea. "(No. 534, Aug. 24, 1906.) A larch growing to enormous dimensions, the trunk of some specimens being 4 feet in diameter 5 feet above the ground and over 150 feet tall. Produces excellent lumber. May be of use for forestry purposes and in parks in the colder regions of the United States." (Meyer.)

## 19531. POPULUS sp.

Poplar.

Young tree. From the forest of Bo-tau-shan, northern Korea. "(No. 536, Aug. 25, 1906.) A poplar with large, elliptical leaves, of which the upper side is somewhat silvery. Grows to be a stately tree over 100 feet tall. Is used by the Koreans, when hollowed out, for making canoes and barrels. Of use as a forest and park tree in the cooler parts of the United States; likes a moist soil and thrives on sandy flats better than in a rocky situation." (Meyer.)

## 19532 to 19543.

From Valuiki, Samara Government, Russia. Presented by Mr. Vasili S. Bogdan, director, Kostichev Agricultural Experiment Station, through Prof. M. Golenkin, director, Moscow Botanical Gardens, Moscow, Russia. Received December 12, 1906.

19532. GLYCERIA DISTANS.	19539. AGROPYRON DESERTORUM.
19533. FESTUCA OVINA.	(No. 3.)
19534. MEDICAGO FALCATA.	19540. AGROPYRON DESERTORUM.
19535. POA BULBOSA VIVIPARA.	(No. 4.)
19536. AGROPYRON CRISTATUM.	19541. AGROPYRON DESERTORUM.
19537. AGROPYRON DESERTORUM.	(No. 5.)
(No. 1.)	19542. AGROPYRON TRITICEUM.
19538. AGROPYRON DESERTORUM.	19543. AGROPYRON REPENS.
(No. 2.)	

## 19544 to 19547. PHOENIX DACTYLIFERA.

Date.

From Muscat, Arabia. Presented by the Hills Brothers Company, New York, N. Y. Received December 1, 1906.

Date seeds for propagating seedling date orchards in the Southwest.

19544. <i>Burdi.</i>	19546. <i>Khanaizi.</i>
19545. <i>Burni.</i>	19547. <i>Naghal.</i>

## 19548 and 19549. HORDEUM DISTICHUM.

Barley.

From Wordsley, Stourbridge, England. Received through Edward Webb & Sons, November 14, 1906.

19458. <i>Webb's Kinvier Chevalier.</i>
19549. <i>Webb's New Burton Malting.</i>

## 19550 to 19553. LILIUM spp.

Lily.

From Shanghai, China. Presented by Rev. J. M. W. Farnham, D. D. Received December 18, 1906.

19550. (Bulbs.)	19551. (Seed.)
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"This lily grows 6 or 7 feet high and bears a beautiful cream-colored flower resembling what I have heard called the Japan lily; ten or more flowers in one head." (*Farnham.*)

19552. (Bulb.)	19553. (Seed.)
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"This lily came up in the spring, looking somewhat like a very large bean plant, with two leaves. It grew to be 3½ feet tall. The leaves, thick and large, were not opposite. Long before it bloomed a bud appeared, which gradually developed and finally opened, revealing 4 buds. From being erect, they began to turn down after the manner of the Japan lily (?), and when horizontal they bloomed. Each flower had 5 petals 6 inches long; 5 stamens. The stalk was one-half inch in diameter. The petals white, with a patch through the middle 2 inches long and three-fourths inch wide, reddish brown or claret color. Some of the leaves, including stem, were 10 inches long and 5 inches wide. The flowers were fragrant and had this peculiarity—the 4 lower petals were like a tube or box, the upper one resembling a cover or lid." (*Farnham.*)

## 19554 to 19557.

From Grensholmen, Norsholm, Sweden. Received from Baron J. Mannerheim, December 14, 1906.

Seed obtained for the purpose of testing at the Agricultural Experiment Station, Sitka, Alaska.

**19554 to 19557—Continued.**

19554. BRASSICA RAPA. Turnip.  
*Petrowski Russian*. "Is proving resistant in Alaska to the turnip root maggot." (*Fairchild*.)
19555. BRASSICA RAPA. Turnip.  
*Gratscheffs Russian*.
19556. SECALE CEREALE. Rye.  
 From northern Sweden.
19557. HORDEUM VULGARE. Barley.  
 From northern Sweden.

**19561 and 19562. CRAMBE MARITIMA. Sea kale.**

From Reading, England. Received through Sutton & Sons, December 20, 1906.

19561.

*Ivory White*. Plants.

19562.

Plants of ordinary sea kale.

For general distribution in an endeavor to popularize this delicious vegetable,

**19563 to 19565. RHEUM spp.**

From Cornhill, Liverpool, England. Received through The Cooperative Bees, Ltd., December 20, 1906.

19563. RHEUM COLLINIANUM.

19564. RHEUM EMODI.

19565. RHEUM UNDULATUM.

Imported for cooperative hybridizing experiments.

**19567. RHEUM hyb. Rhubarb.**

From Paris, France. Received through Vilmorin-Andrieux & Co., December 22, 1906.

*Hybride Florentin*. (See note to preceding number.)

**19568 to 19571. ZEA MAYS. Corn.**

From Budapest, Hungary. Received through Mr. Edmund Mauthner, May 1, 1906.

Four varieties of Indian corn, as follows:

19568. *Pignoletto*. (No. 176.)

19569. *Cinquantino*. (No. 177.)

"Promising for southern California and Arizona." (*Fairchild*.)

19570. *Sze'kely*. (No. 178.)

19571. *Alsuth*. (No. 179.)

**19576 to 19579. MUSA SAPIENTUM. Banana.**

From Mayaguez, Porto Rico. Received from the Agricultural Experiment Station, through Mr. O. W. Barrett, December 26, 1906.

19576.

*Platano Macho*.

19577.

*Hamakua*.

19578.

*Cuatro-racimos*.

19579.

*Congo Punzera*.

**19581. RHEUM PALMATUM TANGHUITICUM.****Rhubarb.**

From Chester, England. Received through Dicksons' Nurseries, December 26, 1906.

Imported for cooperative work in hybridizing experiments.

**19582 to 19585. SOLANUM TUBEROSUM.****Potato.**

From Moscow, Russia. Received from E. Immer & Son, through Prof. N. E. Hansen, December 27, 1906.

Four varieties of the coarse alcohol potatoes imported for experiments in alcohol-distillation work:

19582.

*Woltmann.*

19584.

*Charter.*

19583.

*Phoebus.*

19585.

*Viol.***19586. IRIS OBTUSIFOLIA.****Iris.**

From Kew, England. Presented by Dr. David Prain, director, Royal Botanic Gardens. Received December 29, 1906.

Plants imported for cooperative experiments.

**19594 to 19596. RICINUS COMMUNIS.****Castor-oil plant.**

From Moyobamba, Peru. Presented by Mr. Serafin Filomeno, November 12, 1906.

Three types of seed distinguishable as to color and size.

**19597 to 19605.**

From eastern Siberia. Received through Mr. Frank N. Meyer, agricultural explorer, January 3, 1907.

A collection of plants and cuttings, as follows:

**19597. JUNCUS sp.****Rush.**

From near Czernigowka, Siberia. "(Nos. 559 and 560, Oct. 22, 1906.) A rush growing in moist situations on black peaty soil. Can be grown in moisture-retaining soil without having to be flooded like the matting rushes in southern China. Seems to be well adapted for matting manufacture." (*Meyer.*)

**19598. SALIX sp.****Willow.**

From near Iman, Siberia. "(Nos. 561 and 562, Nov. 1, 1906.) A broad-leaved willow growing to be a tall bush or small-sized tree; leaves somewhat hirsute. The branches of old trees assume a somewhat drooping habit. Is probably *Salix caprea*. Of use as a park shrub or tree, especially on dry, poor soils." (*Meyer.*)

**19599. SALIX sp.****Willow.**

From Lake Hanka, Siberia. "(No. 563, Oct. 29, 1906.) A small-leaved willow growing in water 15 feet deep and having its main roots near the shore but sending out long shoots toward the deep water. The shoots stool out again and form floating bushes between the lotus leaves or the smaller bodies of water connected with the lake." (*Meyer.*)

**19600. VITIS AMURENSIS.****Wild grape.**

From the mountains near Czernigowka, Siberia. "(Nos. 564 and 565, Oct. 23, 1906.) A variety bearing very large leaves; of use as a stock plant in cold climates for large-fruited varieties, and is possibly capable of sufficient improvement to give the world a perfectly hardy grape of the Vinifera type. An inferior wine is made from the berries." (*Meyer.*)



## 19597 to 19605—Continued.

## 19601. SALIX sp.

Willow.

From Knorrink, Siberia. "(No. 566, Oct. 29, 1906.) A bushy willow making long, straight shoots. Grows on moist, peaty soil and is well fitted for basket making; has been planted by the Russians along some of the river banks, but is apparently not the best kind of willow for bank-binding purposes." (Meyer.)

## 19602. SCHIZANDRA CHINENSIS.

From Merkoechofka, Siberia. Cuttings and seed. "(Nos. 360a. 567, and 568, Oct. 25, 1906.) A climber bearing long racemes of scarlet berries which are edible, though not very good. The plant can be used as a graceful vine for trellis work and for porches." (Meyer.)

## 19603. MALUS MALUS.

Apple.

From Khabarovsk, Siberia. "(No. 569.) A small, red-colored apple; withstands the cold and droughts in Khabarovsk very well. Called in Russian *Reinette* apple, but it is of Chinese origin. Obtained from the garden of Gen. M. Vedensky." (Meyer.)

## 19604. PYRUS SINENSIS.

Pear.

From Khabarovsk, Siberia. "(No. 570, Nov. 6, 1906.) Scions of an improved form of *P. ussuriensis*, the wild pear here; obtained from the garden of Gen. M. Vedensky." (Meyer.)

## 19605. PRUNUS sp.

Plum.

From Khabarovsk, Siberia. "(No. 571, Nov. 6, 1906.) A yellow plum, said to be of good flavor, growing vigorously in the rather unfavorable climate. Obtained from the garden of Gen. M. Vedensky." (Meyer.)

## 19606 and 19607. CUMINUM CYMINUM.

Cumin.

From Malta. Presented by Dr. J. Borg, curator, San Antonio Gardens. Received December 27, 1906.

"Samples of the best variety of cumin, *Kemmun bla sufa*, i. e., cumin without wool. Cumin has been grown in Malta since time immemorial. In Geoffroy's *Materia Medica*, published in Venice in 1742, it is stated that cumin in *Melita insula copiose seritur*; indeed, until recently it was not grown anywhere else in the Mediterranean. A peculiarity well worth mentioning is that cumin, although very largely grown in Malta, is never used by us in any way whatever, although we almost daily make use of anise seed, wild fennel, and caraway seed as condiments and for sweetmeats. Cumin is grown only to be exported to the continent, mostly to Hamburg, Germany. The price of cumin in ordinary years varies from £2 to £3 per kantar (Maltese hundredweight of 100 rotolo = 175 pounds). But this year, 1906, the price has gone up to £7 per kantar, said to be owing to the failure of the crop in Morocco. Cumin is used in Germany and Holland for the manufacture of some kinds of liquors and for flavoring dishes and pastry.

"Cumin is sown toward the end of March or beginning of April and the crop is ready toward the 15th of June. When it is about 1 inch high gangs of women are employed with small hoes who squat on the cumin and proceed to scratch the soil around it and to remove the weeds. They trample and bruise the cumin so much that it is a sorry sight to see a field of cumin just tilled, but the cumin seems to enjoy this treatment, and in a fortnight the bruised plants form into bushy balls of the deepest green, thickly set together and covered all over with umbels of small purplish flowers.

"We have two varieties of cumin, or rather the type and its variety. The typical cumin has the fruit or seed covered with longish downy hairs; the variety *bla sufa* is without hairs and is much less subject to mildew than the type. This is probably explained by the fact that the dew is retained by the hairs of the fruit and the growth of the fungus is favored. Both varieties are always found more or less mixed, as the beardless variety has a tendency to revert to the type, but to check the mildew our agriculturists are careful to



**19606 and 19607—Continued.**

discard as much as possible the bearded fruit. The presence of bearded seed does not affect the price of the crop. Cumin is little subject to diseases, much less so than anise, which is also much grown, but in moist springs is very liable to fail." (*Borg.*)

**19608 to 19610. CITRUS spp.**

From Glen Saint Mary, Fla. Propagated by Mr. G. L. Taber for distribution by the Office of Seed and Plant Introduction and Distribution. Numbered January 5, 1907.

Hybrid citrus fruits developed by Dr. H. J. Webber, in charge of the Department Plant Breeding Laboratory.

**19608. CITRUS TRIFOLIATA × AURANTIUM. Citrange.**

*Rustic.* (P. B. No. 783.) Budded on Trifoliata stock.

**19609. CITRUS TRIFOLIATA × AURANTIUM. Citrange.**

*Colman.* (P. B. No. 772.) Budded on Trifoliata stock.

**19610. CITRUS NOBILIS × AURANTIUM. Orange.**

*Thornton.* (P. B. Thornton No. 5.) Budded on rough lemon stock.

**19611. GARCINIA MANGOSTANA. Mangosteen.**

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Department of Agriculture. Received January 5, 1907.

Seed.

**19612. IMPATIENS OLIVERI.**

From Kew, England. Presented by Dr. David Prain, director, Royal Botanical Gardens. Received January 5, 1907.

Seeds imported for breeding experiments.

**19616. LAGENARIA VULGARIS. Gourd.**

From Cape Town, South Africa. Presented by Hon. Horace Lee Washington, consul-general. Received December 20, 1906.

"Within the past five years there has come into very general use in South Africa a pipe made from the calabash. Pipe smokers who have used this calabash pipe, practically without exception, say that it gives a special softness of flavor that pipes of no other material offer. I believe this to be so and that the demand for such a pipe in the American market would be very large, for as soon as the pipe becomes known it will be appreciated. To be of benefit to the fullest extent the calabash should be grown at home.

"Great difficulty is experienced in securing the seed here. The farmers are sometimes suspicious and boil the seed, and in any event it is not readily obtained. The calabash pipe industry is proving a very remunerative one here in Cape Colony, both to the growers of the calabash and those engaged in making it into pipes, and also to the retail sellers. It grows in certain sections of Cape Colony with little difficulty, but seems to demand a very hot and dry climate with rain at the right season of the year to reach perfection. The curved stem end of the vegetable forms a light and appropriate shape for pipes. It colors like meerschaum and can be highly polished. The life of one of these pipes is about that of a French briar wood pipe. The usual lining is plaster of paris, called by the trade "meerschaum." A cheap grade is lined with tin. These pipes sell for from \$1 to \$62, according to the type of finish. Pipe mounting and fitting being cheaper in England than here, large shipments are made to England for mounting and returned here for sale.

"The industry is being crippled here by the growers refusing to sell the seeds of the calabash. It is extremely difficult, as stated above, to obtain them from any source. The crop last year was estimated at 60,000 and this year at about 150,000, but next season's prospects are not so good." (*Washington.*)

"This can be grown successfully in the Southwest, and gourds have been matured in Maryland from which beautiful pipes were made." (*Fairchild.*)

**19617. CANAVALIA OBTUSIFOLIA.**

From San Ramon, Mindanao, P. I. Received through Mr. Frank Benton, apicultural investigator, December 29, 1906.

"(No. 97.) Beans growing on the beach in sand wet with salt water from time to time. A creeping plant with ascending stems 18 inches to 2 feet tall; blossoms pinkish purple. Cattle eat the leaves readily. The plant binds well shifting sands close to sea water." (*Benton.*)

**19618. LUFFA sp.****Gourd.**

From San Ramon, Mindanao, P. I. Received through Mr. Frank Benton, apicultural investigator, December 29, 1906.

(*Benton's* No. 98.)

**19619. ANTIGONON LEPTOPUS.****Mountain rose.**

From Poona, Bombay Presidency, India. Received through Mr. Frank Benton, apicultural investigator, December 29, 1906.

"(No. 100.) Seed of a very ornamental climbing plant. Produces a profusion of beautiful delicate pink blossoms in branching racemes; commonly cultivated in parts of India; also common in Manila and other parts of the Philippines as a porch cover. Spanish name, *Cadena de Amor.*" (*Benton.*)

**19620. HEDYCHUM COCCINEUM (?)**

From Lumding, Assam, India. Received through Mr. Frank Benton, apicultural investigator, December 29, 1906.

"(No. 101.) Seed of a herbaceous plant, 12 to 15 feet tall, found growing on the edge of a marsh. Leaves alternate, about 15 inches long, lanceolate-linear, pointed; blossoms in terminal racemes, each blossom resembling a small pink lily; quite ornamental; seed pods size of hazelnut, black when ripe; seeds numerous, small, black." (*Benton.*)

**19621. OPUNTIA sp.****Tuna.**

From Alonzo, Mexico. Received through Dr. David Griffiths, January 7, 1907.

Seedling plants grown from seed collected by Dr. Griffiths June 10, 1904 (Nos. 6529 and 6530), at Alonzo, Mexico, and propagated in the Department greenhouse.

**19622. PHYLLOSTACHYS MITIS.****Bamboo.**

From Nagasaki, Japan. Received through Mr. John H. Tull, special agent, January, 1907.

"Young plants of the *Moso* variety, which is the largest variety growing near Nagasaki. These plants were purchased from a farmer, Mr. Gaichiro Komori, 1313 Tagami village, and I know them to be genuine, as I saw them dug, and the roots were connected with the large plants. The true largest form is hard to dig, and unless some one is there when they are dug smaller forms will be substituted, for all look alike when young. Tagami village is only a few miles out and very fine bamboos grow there. One or two thousand more plants, grown one year in nursery rows, can be arranged for at 40 sen (20 cents) each, if desired." (*Tull.*)

**19630 to 19691. MALUS spp.**

From Jamaica Plain, Mass. Presented by Prof. C. S. Sargent, of the Arnold Arboretum. Received January 7, 1907.

A collection of cuttings secured from trees growing in the Arnold Arboretum for cooperative work with the Mississippi Valley Apple Breeders' Association.

The notes are those of Professor Sargent.

## 19630 to 19691—Continued.

19630. *M. SARGENTI*.

"*M. sargentii* was discovered by me in a salt marsh near Mororan, Japan, in 1892. It is a rather small shrub, but very ornamental in flower."

19631. *M. SYLVESTRIS*.

"*M. sylvestris* is sometimes called *M. aceba*, and by the older botanists was considered a form, at least, of the common apple."

19632. *M. CRATAEGIFOLIA*.

"*M. crataegifolia*, sometimes called *Cormus*, is a rare Italian tree."

19633. *M. SPECTABILIS* var. (1615).

"*M. spectabilis* var. is the double-flowered form of *M. spectabilis*, unknown in cultivation and supposed to be a native of China."

19634. *M. ZUMI*.

"*M. zumi* is a native of the mountains of Japan, where I found it in 1892 and introduced it into cultivation."

19635. *M. BACCATA* (?).

"*M. baccata* is the small-fruited crab of eastern Siberia."

19636. *M. ATROSANGUINEA*.

"*M. atrosanguinea* is probably a hybrid between *M. toringo* and *M. floribunda*."

19637. *M. BACCATA* × *MALUS* (3549).19638. *M. PRUNIFOLIA* FRUTICO COCCINEA.19639. *M. DENTICULATA* (4627-1).19640. *M. CASHMERICA* (8833/1).

"*M. cashmerica* is a Himalayan species. It is growing well here and is interesting as one of the few Himalayan trees that flourish in this climate."

19641. *M. CORONARIA*.

"*M. coronaria* is our common species of the Eastern States."

19642. *M. BACCATA* SANGUINEA.19643. *M. SIBIRICA* FRUTICO COCCINEA.19644. *M. MICROCARPA*.19645. *M. MALUS*, extra fruiting var.19646. *M. SCHEIDECKERI*.

"*M. scheideckeri* is a very fine seminal form of the double *M. spectabilis*."

19647. *M. SIBIRICA* (?).

"Progress, Ottawa. Probably a *baccata*."

19648. *M. BACCATA* PRUNIFOLIA (2553).19649. *M. RIVULARIS* var.

"*M. rivularis* var. is a very interesting plant, indeed, raised here from seed many years ago collected in Oregon. It is quite distinct from *M. rivularis* and gives some evidence of being a hybrid. It has not yet been described or named."

19650. *M. PRUNIFOLIA*.

Extra-red fruit. "*M. prunifolia* is a Siberian species."

## 19630 to 19691—Continued.

19651. *M. ARNOLDIANA*.

"*M. arnoldiana* is a seedling of *M. floribunda* that originated in the Arboretum and shows the influence of the blood of *M. prunifolia* by its larger flowers."

19652. *M. TORINGO*.

(Mountains, Peking; 1708.) "*M. toringo* is the common north China species, with both red and yellow fruits. Your No. 19664 is a dwarf form of this raised at the Arboretum from Chinese seeds."

19653. *M. BACCATA OBLONGA* (1785).19654. *M. TORINGO*.

Yellow fruit (3703 F).

19655. *M. PRUNIFOLIA XANTHOCARPA*.19656. *M. FLORIBUNDA*.

"*M. floribunda* is probably a Chinese plant, although it was introduced into Europe and the United States from Japan. It does not appear to be known in a wild state."

19657. *M. SPECTABILIS* var. (459-1).19658. *M. RINGO* (4644).

"*M. ringo* is probably Japanese."

19659. *M. SPECTABILIS*.19660. *M. BACCATA* var.19661. *M. BACCATA* × *FLORIBUNDA*.19662. *M. RINGO*.19663. *M. BACCATA AURANTIACO*.19664. *M. TORINGO*.

Dwarf variety; mountains near Peking.

19665. *M. SOULARDI*.

"*M. soulardi* is the well-known species, or hybrid, as some authors believe, of the Central West."

19666. *M. BACCATA*.

Var. Hillend; bright red fruits.

19667. *M. MALUS*.

Bright red fruit.

19668. *M. RIVULARIS*.

"*M. rivularis* is the common wild crab of the Northwest."

19669. *M. MALUS* (444-1).19670. *M. ASTRACANICA*.19671. *M. MALUS*. (441-2).19672. *M. PRUNIFOLIA RUBIA CERASIFORMIS*.19673. *MALUS* (?) var.

Rones crab (Ottawa).

19674. *M. IOENSIS*.

"*M. ioensis* is the common crab of the Central West."

19675. *M. PRUNIFOLIA FLAVA*.

## 19630 to 19691—Continued.

19676. *M. ANGUSTIFOLIA.*

"*M. angustifolia* is the crab apple of the Southern States, getting north into Missouri and Pennsylvania."

19677. *M. BACCATA MAXIMA.*19678. *M. MALUS* × *BACCATA.*19679. *M. MALUS* fl. pl.19680. *M. MALUS FASTIGIATA BIFERS* (538-2).19681. *M. HALLIANA.*

"*M. halliana*, of which *M. parkmani* is a synonym, is also Chinese, although it was probably first introduced from Japan. It is unknown in a wild state."

19682. *M. BACCATA* var.19683. *M. NIEDWETZSKYANA.*

"*M. niedwetzskyana* is a Turkestan tree and probably a form of the common apple."

19684. *M. SPECTABILIS* var. (766-1).19685. *M. BACCATA* × *TORINGO.*19686. *M. RINGO INCISA* (3636-1).19687. *M. KAI DO.*19688. *M. MALUS PENDULA.*

"*M. pendula* is the weeping form of the common apple."

19689. *M. RINGO SUBLOBATA* (4645).19690. *M. PRUNIFOLIA MACROCARPA.*19691. *MALUS* sp. (5004 No. 5).19692. *ARALIA CORDATA.*

Udo.

From Japan. Received from Furuya & Co., Seattle, Wash., January 10, 1907.

*Moyashi.* Plants of an especially vigorous strain.

19693 and 19694. *SOLANUM COMMERSONI.*

Aquatic potato.

From Burlington, Vt. Received through Prof. Wm. Stuart, of the Agricultural Experiment Station, January 7, 1907.

19693.

"Field-grown tubers from stock of Rev. J. R. Lawrence, Middleboro, Mass., whose original stock came from Dr. Haeckel." (*Stuart.*)

19694.

"Greenhouse-grown tubers from stock secured direct from Dr. Haeckel in 1904." (*Stuart.*)

19695 and 19696. *ANDROPOGON SORGHUM.*

From Bloemfontein, Orange River Colony, South Africa. Presented by Mr. M. Stewart Galbraith, government agronomist, through Prof. C. V. Piper. Received January 14, 1907.

19695.

Kafir corn.

"Common *Boer* Kafir corn; a white variety quite productive under our local conditions; being somewhat late, it is very drought resisting." (*Galbraith.*)

## 19695 and 19696—Continued.

19696.

Sweet sorghum.

"*Sorghum saccharatum* supposed to have been brought to this country by the exile Boers who had been transported to Ceylon during the South African war. Unfortunately I can not speak definitely on this variety, as it has not had time to develop; however, the farmer from whom I obtained the seed speaks very highly of it as a bird-proof Kafir corn; that is to say, that this variety when grown beside the common *Boer* Kafir corn was immune to the ravages of birds, while the local variety was almost destroyed." (*Galbraith.*)

## 19714. PENNISETUM CENCHROIDES

From Ootacamund, India. Presented by Mr. R. L. Proudlock, curator, Government Botanic Gardens. Received January 8, 1907.

"Tamil name *Kolei-Kattei*. This grass is largely cultivated in the Conicbatore district for the purpose of pasturing cattle on. It is considered to be a valuable fodder and stands drought well." (*Proudlock.*)

## 19715. XANTHOSOMA SAGITTIFOLIUM.

Yautia.

From Ancon, Canal Zone. Received through Mr. Henry F. Schultz, January 22, 1907.

## 19716. VANILLA sp.

Vanilla.

From Las Animas, Mexico. Received from Don Ernesto Guterrez, through Mr. G. N. Collins, January 21, 1907.

"Cutting of a variety said to yield very good vanilla." (*Collins.*)

## 19717. OLIVERANTHUS ELEGANS.

From Central Mexico. Received through Dr. J. N. Rose, of the U. S. National Museum, January 21, 1907.

Discovered in Mexico in 1901 by Doctor Rose and first described by him in the North American Flora, vol. 22, pt. 27, 1905. "The plant is a succulent, 1½ to 2 feet in height, with large, bright red flowers produced singly or in pairs at the end of the slender branches. It is easily grown and starts readily from cuttings and when planted in mass when in flower it makes a brilliant and striking display." (*Rose.*)

## 19718. PASSIFLORA EDULIS.

Passion fruit.

From Australia. Presented by Mr. H. W. Heath, of Chico, Cal.

Plants grown at the Plant Introduction Garden, at Chico, from seed secured by Mr. Heath from Australia. Mr. Heath says it is the prevailing edible Passiflora of Australia.

## 19719. CALOPHYLLUM INOPHYLLUM.

From Manila, P. I. Presented by Mr. W. S. Lyon, of the Bureau of Agriculture, January 21, 1907.

"*Palo Maria*. A large and exceedingly ornamental tree; flowers fragrant and very showy. The seeds bear 70 to 72 per cent of a heavy, resinous, freely saponifying oil." (*Lyon.*)

## 19720. CANAVALIA ENSIFORMIS.

Knife bean.

From Manila, P. I. Presented by Mr. W. S. Lyon, of the Bureau of Agriculture, January 21, 1907.

"*Camcampilan*. A very prolific, climbing bean. The large pods are boiled and eaten when very young and tender." (*Lyon.*)



**19721. PYRUS POLLVERIA.**

From Christiania, Norway. Presented by Dr. N. Wille, director, Botanic Gardens, through Mr. David Fairchild. Received January 25, 1907.

Cuttings secured for hybridizing experiments.

(See S. P. I. No. 21547 for description.)

**19729. NYMPHAEA AMPLA.**

From Rio Piedras, P. R. Presented by Mr. F. M. Pennock, of the University of Porto Rico, through Mr. O. W. Barrett. Received January 29, 1907.

**19733 and 19734. MALUS spp.**

From Jamaica Plain, Mass. Presented by Prof. C. S. Sargent, of the Arnold Arboretum. Received January 24, 1907.

Seeds, as follows:

**19733. MALUS SARGENTI.**

**19734. MALUS TORINGO.**

Secured for distribution in cooperative hybridizing experiments.

**19735 and 19736.**

From Kobe, Japan. Received through Mr. John H. Tull, December 15, 1906.

**19735. BRASSICA CHINENSIS.**

**Rape.**

"(No. 13.) The seed cake is used extensively in Japan and China as a fertilizer for matting grass." (Tull.)

**19736. JUNCUS EFFUSUS.**

**Rush.**

"(No. 14.) Old seeds presented by Dr. A. G. Boyer, of Kobe. This is some of the lot he sent several years ago." (Tull.) (See S. P. I. No. 9873.)

**19737 to 19775. ANDROPOGON SORGHUM.**

From Cedra, Natal. Presented by the Director of Experiment Stations, through Prof. C. V. Piper. Received January 22, 1907.

A collection of sorghums grown at the Central Experiment Farm or thereabouts. Native names received with seeds, which were described on arrival by Mr. C. R. Ball.

**19737.**

Variety No. 1, Black-hulled white kafir; hulls very dark; head rather long and slender, like Red kafir.

**19738.**

Same as preceding, with a large percentage of the hulls very light in color.

**19739.**

*Unomputshana.* Black-hulled white kafir type, with dark to red colored hulls; slightly longer than the average kafir hulls.

**19740.**

*Utuyana elimhlopo.* Black-hulled kafir type with head rather longer than the average; hulls reddish to white in color, slightly longer than the average kafir hulls; head 11 inches long.

**19741.**

Same as the preceding, except that the hulls are lighter and the head more slender; length 10 inches.

## 19737 to 19775—Continued.

## 19742.

Variety No. 3, apparently a red  $\times$  black-hulled kafir cross; head about 13 inches long; grains tinged with red.

## 19743.

Same as No. 19742, but with grains somewhat redder in color; hulls less dark; length 11 inches.

## 19744.

*Bhampi*. Apparently red  $\times$  black-hulled kafir; seeds rather large, tinged with red; hulls light to dark; head rather club shaped; length 11 inches.

## 19745.

Variety No. 4; similar to No. 19744, except that the seeds are slightly less red; hulls perhaps a little shorter; length about 11 inches.

## 19746.

*Usutuazana*. Black-hulled kafir type; the character of the hulls and seeds indicates a probable cross with orange on red or white kafir; length about 11 inches.

## 19747.

*Gabane*. Resembles a cross of orange with either red or black hulled kafir; seeds tinged with red, with red to dark colored hulls; length 11 inches.

## 19748.

Same as No. 19747, but with more of a kafir-like appearance; seeds rather large, partially inclosed by hulls longer than kafir hulls; head 11 inches long.

## 19749.

*Jara*. A good type of red kafir; seeds rather large; length about 13 inches.

## 19750.

*Unkloblonde* (long headed). Red kafir type, with light colored hulls; seeds rather large; length 10 inches.

## 19751.

Same as No. 19750, but with rather large, dark hulls; length 10 inches.

## 19752.

*Ugabana*. Red kafir type, with rather large red-colored seeds, partially inclosed with very dark red colored hulls; length about 10 inches.

## 19753.

Same as No. 19752, but with lighter colored seeds inclosed by dark, shiny hulls; head somewhat club shaped; length about 10 inches.

## 19754.

*Gabana*. Red kafir type, with red hulls ranging to light color; seeds reddish; head very slender; length 9 inches.

## 19755.

*Mbedhlana*. Red kafir type, with large, dark red colored seeds, partially inclosed by large, dark, shiny hulls; head slender; length 9 inches.

## 19737 to 19775—Continued.

19756.

Same as No. 19755, differing only in that the hulls are from dark red to reddish in color; head long and very slender; length 9 inches.

19757.

*Mbedhlana* (white). Similar to No. 19755, but with white-colored seeds; dark to reddish hulls; length 9 inches.

19758.

*Uhlangazana*. Red kaffir type, with reddish colored seeds, partially inclosed by rather larger, reddish to dark colored hulls; head 10 inches long and very slender.

19759.

Same as No. 19758, but with dark, shiny hulls; head somewhat shorter and broader; length 9 inches.

19760.

*Uhlangazana* (white). Similar to No. 19758, but with lighter colored seeds, partially inclosed by reddish to brown colored hulls; length of head 10 inches.

19761.

Same as No. 19760, but with much darker colored hulls; head slightly shorter and broader; length 9 inches.

19762.

*Umchloenkuku* (fowl's eye). White kaffir type of head, with large seeds tinged with red and partially inclosed by large, dark, shiny hulls; length 9 inches.

19763.

*Hlakuva* (so called because thought to look like castor-oil seeds). A very small headed, short variety. Smoky brown colored seeds, with dark colored, shiny hulls; head rather small, slender; length 8 inches.

19764.

Variety No. 2; white durra, India type, with very white seeds and light straw colored hulls; head rather broad; length 8 inches.

19765.

Variety No. 5; a loose, open-headed type, very heavily seeded; seeds light colored, slightly tinged with red; hulls light straw colored; head about 10 inches long.

19766.

*Unukana*. A large, open-headed type, with medium small, reddish seeds, inclosed partially by rather large, dark straw colored hulls; seems related to some of the red types of Indias; head about 12 inches long.

19767.

*Itiva*. A Collier type of head, with Collier seeds; long, light to darker colored hulls, showing not a trace of white margin; head lightly seeded.

19768.

*Undendebula*. Similar to No. 19767, but more heavily seeded and showing a trace of margin on the dark colored hulls.

19769.

*Igenga Igenga ntombi*. A Collier type, but with lighter colored seeds, two-thirds inclosed by black, shiny hulls; head rather heavily seeded.

## 19737 to 19775—Continued.

19770.

*Itshobalehansi* (goose-tail). A very long branched, drooping type of head, with light colored seeds nearly inclosed by dark to light colored hulls; head fairly well seeded.

19771.

*Umgungobotive*. Long-branched, drooping head; a Collier type, with Collier seeds; head lightly seeded.

19772.

*Uoigabela*. A close type of head, with small, brown-colored seeds, nearly inclosed by dark colored hulls; rachis extending through the head; length 8 inches.

19773.

*Ibodhla*. A rather close amber type of head, with small, light colored seeds and dark hulls; head fairly well seeded.

19774.

*Ihlosa* (the higher). Minnesota amber type with long-pointed, smooth, black glumes; head fairly well seeded; length about 9 inches.

19775.

*Umnyamana* (dark). A small, semicompact head with seeds no larger than sumac seeds and nearly inclosed by dark, shiny hulls; rachis extending through the head; head well filled; length 9 inches.

## 19776. ALLIUM FISTULOSUM.

From Waseda, Tokyo, Japan. Presented by J. Ikeda & Co., February 19, 1906.

*Shimonita*. "This is quite a distinct vegetable, intermediate in character between the leek and onion. On first sight the stem would unhesitatingly be pronounced Musselburgh leek, and it could be sold as such, but it is readily distinguished by its round hollow leaf. The central leaf forms a very peculiarly pointed cylinder, which is solid and of good flavor, but rather peppery." (*Tracy*.)

## 19778. XANTHOSOMA sp.

Yautia.

From Tuxtla Gutierrez, Chiapas, Mexico. Presented by Don Pompilio Moguel, through Mr. G. N. Collins. Received January 31, 1907.

"Roots of a variety locally known as *Tekircamote*." (*Collins*.)

## 19779 to 19784. HORDEUM spp.

Barley.

From Svalöf, Sweden. Received through the General Swedish Seed Company February 1, 1907.

A collection of pedigreed brewing barleys, as follows:

19779. HORDEUM DISTICHUM ERECTUM.

*Primus*.

19780. HORDEUM DISTICHUM NUTANS.

*Prinsess*.

19781. HORDEUM DISTICHUM NUTANS.

*Chevalier II*.

19782. HORDEUM DISTICHUM ERECTUM.

*Svanhals*.

## 19779 to 19784—Continued.

19783. HORDEUM VULGARE.

*Gutekorn.*

19784. HORDEUM VULGARE.

*Serradigt.*

19789. VANGUERIA INFAUSTA.

Wild medlar.

From Pretoria, Transvaal. Presented by Prof. J. Burt Davy, botanist, Transvaal Department of Agriculture. Received February 4, 1907.

"Seed of an edible fruit with flavor of a medlar. Grows mostly in frostless parts of the Transvaal on stony hillsides." (*Davy.*)

19790 to 19792. KENNEDYA spp.

From Sydney, New South Wales. Presented by Hon. Walter S. Campbell, director, Department of Agriculture. Received January 19, 1907.

19790. KENNEDYA MONOPHYLLA.

19791. KENNEDYA PROSTRATA.

19792. KENNEDYA RUBICUNDA.

## 19795 and 19796.

From Reykjavik, Iceland. Presented by Prof. Thorhallur Bjarnarson, president, Icelandic Agricultural Society. Received February 2, 1907.

Seeds for introduction into Alaska.

19795. BRASSICA RAPA.

Turnip.

"The turnip is cultivated in Iceland a good deal for human food, and it is about the only plant which produces seed there. This seed, originally from Norway, is of a good sort and has been cultivated for about twenty years in Iceland." (*Bjarnarson.*)

19796. FESTUCA RUBRA.

Red fescue.

19797. XANTHOSOMA sp.

Yautia.

From Ancon, Canal Zone, Panama. Received through Mr. Henry F. Schultz February 9, 1907.

Mr. Schultz calls this species *X. atrovirens*.

19798. MUSA SAPIENTUM.

Banana.

From Manila, P. I. Presented by Mr. W. S. Lyon, of the Bureau of Agriculture, February 11, 1907.

*Bungulan.*

19799. CHAETOCHELOA SULCATA.

From Pretoria, Transvaal. Presented by Prof. J. Burt Davy, botanist, Transvaal department of agriculture. Received February 6, 1907.

"A most useful pasture and hay grass for partially shaded woodland. It is sensitive to frost. It is variously called *Natal Buffel* and *Bush Buffel* grass. It is also an ornamental grass worth cultivating in gardens in forestless regions." (*Davy.*)

**19800. TRIFOLIUM REPENS.****White clover.**

From Milan, Italy. Received from Mr. Fratelli Ingegnoli, through Mr. Edgar Brown, February 7, 1907.

*Lodino.*

**19806. OROXYLON INDICUM.**

From Manila, P. I. Presented by Mr. W. S. Lyon, of the Bureau of Agriculture, February 11, 1907.

"Seed of a medium to large tree, the timber of which is in special demand for the manufacture of matches." (*Lyon.*)

**19807. DIOSCOREA SATIVA.****Yam.**

From Mayaguez, Porto Rico. Received through the Porto Rico Agricultural Experiment Station, February 12, 1907.

"*Guinea.* The cylindrical shape, the medium thick skin, the tendency to produce only one or two large roots to the hill, and its resistance to drought render the variety the favorite among the natives of Porto Rico." (*Barrett.*)

**19810 to 19821. IPOMOEA BATATAS.****Sweet potato.**

From Santiago de las Vegas, Cuba. Presented by Prof. C. F. Austin, chief, Department of Horticulture, Estacion Central Agronomica, through Mr. O. W. Barrett. Received February 15, 1907.

A collection of Cuban varieties collected by the Estacion Central Agronomica. The numbers in parentheses are those under which they were received.

**19810.***Barbacoa.* (No. 6076.)**19816.***Papa.* (No. 6083.)**19811.***Morado.* (No. 6079.)**19817.***Cuban.* (No. 5221.)**19812.***Yema de huevo.* (No. 6082.)**19818.***Matojo.* (No. 6078.)**19813.***No. 10.* (No. 6085.)**19819.***No. 6.* (No. 6081.)**19814.***Mulato.* (No. 6077.)**19820.***No. 9.* (No. 6084.)**19815.***Cinco dedos.* (No. 6080.)**19821.***Mono Negro.* (No. 5369.)**19822 and 19823.**

From Marsovan, Turkey. Presented by Mr. H. Caramanian, Monastery Farm, through Prof. C. V. Piper. Received February 18, 1907.

**19822. MEDICAGO SATIVA.****Alfalfa.****19823. VICIA SATIVA.****Common vetch.****19824 to 19827.**

From Sapporo, Japan. Presented by Prof. K. Oshima, director, Hokkaido Agricultural Experiment Station. Received February 18, 1907.

**19824. LOTUS CORNICULATUS JAPONICUS.****Yellow trefoil.****19825. POLYGONUM SACHALINENSE.****19826. BRACHYPODIUM JAPONICUM.****Japanese wheat-grass.****19827. MISCANTHUS SINENSIS.****Eulalia.**



19836 to 19841. *IPOMOEA BATATAS*.

Sweet potato.

From Sibpur, India. Presented by Prof. A. T. Gage, superintendent, Royal Botanic Gardens. Received February 20, 1907.

19836.

*Japan Brown Selected.*

19837.

*Dhamakia White.*

19838.

*Thegania Red Selected.*

19839.

*Poona Local.*

19840.

*Thegania White Selected.*

19841.

*Cawnpore White Selected.*

## 19842 and 19843.

From Parras, Coahuila, Mexico. Received through Mr. W. E. Safford, February 20, 1907.

19842. *AMYGDALUS PERSICA*.

Peach.

"Fruit of fine quality, yellow, freestone; drought resisting; from altitude of 5,000 feet above sea level. Comes true to seed." (*Safford.*)

Trees.

19843. *CYDONIA VULGARIS*.

Quince.

"Fruit of fine quality: drought resisting; from altitude of 5,000 feet above sea level." (*Safford.*)

Trees.

## 19853 to 19857.

From Funchal, Madeira. Received through Mr. David Fairchild, February 23, 1907.

A collection of cuttings, as follows:

19853. *ANONA CHERIMOLIA*.

Cherimoyer.

"(No. 01, Jan. 31, 1907.) This fruit tree thrives in all the quintas of Funchal, and there are probably different varieties of it, though no distinctive names are given to the various sorts. Two forms were pointed out to me by the gardener of Mr. Reid's quinta, a long-fruited form and a heart-shaped one. These scions are from the long-fruited form. The fruits vary greatly in size, but the one I saw of this sort was 5 inches long. Seeds vary in number.

"There is a great variation in the character of the prominence of the stigmatic protuberances, or 'spines.' This variety has few such and is comparatively smooth. The natives say the 'spiny' forms have many seeds, the spineless have few. No seedless form has been encountered. This sort is considered of good flavor, but not equal to the heart-shaped form." (*Fairchild.*)

19854. *ANONA CHERIMOLIA*.

Cherimoyer.

"(No. 02.) Scions of the heart-shaped form of cherimoyer from Mr. Reid's quinta. The fruit of this (i. e., the single good one I saw) is about 4½ inches wide and 4½ inches from stem to tip. Mr. Reid's gardener declares this has a superior flavor to the long form and has fewer seeds. Mr. Blandy believes that abundant use of manure about the trees makes them produce fruit with few seeds." (*Fairchild.*)

19855. *ANONA CHERIMOLIA*.

Cherimoyer.

"(No. 04, Feb. 2, 1907.) Scions from trees in the quinta of Mr. J. B. Blandy. A variety which Mr. Blandy assures me is of unusually good quality, with few seeds compared with the ordinary fruit of the island. Mr. Blandy grows his trees on a high trellis, so that the fruits hang in the shade. They are all grafted on seedlings about 3 feet above the ground." (*Fairchild.*)

## 19853 to 19857—Continued.

19856. *SALIX VIMINALIS*.

Osier willow.

"(No. 03, Feb. 2, 1903.) One of the principal plant industries of Madeira is the manufacture of baskets and chairs from the native willow, or osier. This willow is grown in the mountains and pollarded to make it produce long, branchless shoots. There seem to be no large areas covered with the trees, but many small areas all over the mountain sides. The baskets, chairs, etc., made from it are remarkable for their lightness and durability." (*Fairchild*.)

19857. *SALIX BABYLONICA*.

Weeping willow.

"(No. 05, Feb. 2, 1907.) The parent of this willow came as a cutting from a tree growing in St. Helena over the grave of Napoleon I. This is the second generation, and is growing in quinta St. Luzia, belonging to J. B. Blandy, esq." (*Fairchild*.)

19858. *BLIGHIA SAPIDA*.

Akee.

From Ancon, Canal Zone, Panama. Received through Mr. Henry F. Schultz, February 25, 1907.

19862. *SECHIU M EDULE*.

Chayote.

From Parras, Coahuila, Mexico. Received through Mr. W. E. Safford, of the Bureau of Plant Industry, February 21, 1907.

"Fruits of a chayote, said to be of fine quality; drought resisting; from altitude of 5,000 feet above sea level, where there are occasional frosts." (*Safford*.)

19863. *PISUM ARVENSE*.

Field pea.

From Guelph, Ontario, Canada. Received through the Ontario Agricultural College, February 23, 1907.

*Early Britain.*

## 19885 to 19895.

From Osaka, Japan. Presented by Prof. K. Okada, director of Kinai Branch Station, Kashiwara Kawachi. Received February 12, 1907.

19885 to 19887. *GOSSYPIUM* sp.

Cotton.

19885.

*Akaki*. A red-stalked variety.

19886.

*Aoki*. A green-stalked variety.

19887.

*Chia wata*.

19888 to 19891. *ORYZA SATIVA*.

Rice.

19888.

*Bungo*.

19890.

*Shijunichi Washe*.

19889.

*Shin Shiu Kaneko*.

19891.

*Yamata Jikara*.

"These rices are all early-maturing varieties." (*Okada*.)

19892 to 19895. *HORDEUM VULGARE*.

Barley.

A collection of naked barleys.

19892.

*Kamamugi*.

19894.

*Wakamatsu*.

19893.

*Tanbashi*.

19895.

*Yone Hadaka*.

## 19897 to 19905.

From Funchal, Madeira. Received through Mr. David Fairchild, March 4, 1907.

19897. *DOMBEYA SPECTABILIS* (?).

"(No. 014, Feb. 16, 1907.) Cuttings of a most beautiful ornamental tree with pendent flower clusters of pink flowers. These clusters are as large as those of a *Viburnum* and more delicate. The large-leaved, rapidly growing tree is an ornamental of value aside from its flowers. Known in Portugal as a stove plant, but here is grown in the quintas everywhere. Propagates easily from cuttings." (*Fairchild.*)

19898. *ANONA CHERIMOLIA* (?).

Cherimoyer.

"(No. 015, Feb. 15, 1907.) Grafting wood of a tree in the quinta of Mr. C. L. Power, of Funchal. I am assured by him that it bears fruit of excellent quality, heart shaped in form, and with comparatively few seeds. It is not known by any varietal name, though it is a grafted tree. Presented by Mr. Power, who will send more if wanted." (*Fairchild.*)

19900. *PHYSALIS PERUVIANA*.

Cape gooseberry.

"(No. 016, Feb. 17, 1907.) Fruit grown in the mountains of this island for the production of jam. This jam is one of the most delicious things of the kind I have ever tasted. It is made by boiling 1 pound of sugar to 1 pound of berries, first boiling sugar in 1 cup of water until quite dissolved. Boil for one hour, stirring all the time." (*Fairchild.*)

19901. *ANONA CHERIMOLIA* (?).

Cherimoyer.

"(No. 07, Feb. 12, 1907.) Seed from good fruit served on the hotel table here. For the breeders of *Anona*. The fruits here are extremely variable. Many are grafted, but there are no recognized varieties." (*Fairchild.*)

19902. *JUNCUS* sp.

Rush.

"(No. 08, Feb. 12, 1907.) From the village of Llogar do Baishe (Ponto do Sol). Specimen and seeds of a species of *Juncus* said to have been used in the manufacture of rush mattings. The stems are not over 27 inches long and the plant, I judge, grows to a good old age. Along margins of wet places near seashore probably saline. Now in bloom. For more information write to Mr. A. G. Jardine, of Funchal." (*Fairchild.*)

19903. *CAPSICUM ANNUUM*.

Red pepper.

"(No. 012.) Two interesting red peppers from the market of Funchal. I can not find that any red pepper is made from them but they are eaten cooked." (*Fairchild.*)

19904. *ANONA CHERIMOLIA*.

Cherimoyer.

"Seed of an *anona* from Mr. Reid's villa. Long variety; acid flavor." (*Fairchild.*)

(No number assigned by Mr. Fairchild, but no doubt these seeds came from a fruit from same stock as S. P. I. No. 19853.)

19905. *ANONA CHERIMOLIA*.

Cherimoyer.

"Heart-shaped form; very sweet; from Mr. Reid's quinta, Funchal." (*Fairchild.*) Seed.

(Probably from the same tree as cuttings S. P. I. No. 19854.)

19909. *CITRUS LIMONUM*.

Lemon.

From San Juan, Porto Rico. Presented by Mr. A. B. Mitchell, through Mr. O. W. Barrett. Received March 4, 1907.

*Rough.* Seed.

**19910. PASPALUM DILATATUM.****Large water-grass.**

From Coff's Harbor, New South Wales. Received through Mr. W. Secombe, March 4, 1907.

**19911. TRIFOLIUM PRATENSE.****Red clover.**

From Kuhlewyl, Switzerland. Received through Mr. H. R. Pulfer, March 2, 1907.

*Perennial.*

**19912. SESBANIA MACROCARPA.**

From Yuma, Ariz. Received through Mr. E. L. Crane, March 2, 1907.

"This plant grows to a height of 15 feet or more and covers hundreds, perhaps thousands, of acres of the rich alluvial soil along the banks of the Colorado River, south of Yuma. It is perhaps one of the largest annual leguminous plants in America and is remarkable as covering completely such large areas of land. The roots are loaded with nodules and it is probable that this plant has for hundreds of years added materially to the fertility of the delta region of the Colorado River. The attention of Prof. R. H. Forbes, of the Arizona Agricultural Experiment Station, at Tucson, Ariz., and the attention of the writer were attracted at about the same time to the possibility of this plant being a valuable species for increasing the nitrogen content of soils in the Southwest. Seeds were collected for the purpose of making this test, and the preliminary trials have shown it to have considerable value for this purpose. It should be sown in late spring, as it requires a great deal of warmth for germination." (*Fairchild.*) (See Bulletin 1903, Arizona Agricultural Experiment Station.)

**19924 to 19931.**

From Pretoria, Transvaal. Presented by Prof. J. Burt Davy, botanist, Transvaal Department of Agriculture. Received March 4, 1907.

Descriptive notes furnished by Obe resident magistrate, Potgietersrust, Obe neighborhood, from which Obe samples were obtained. Numbers in parentheses are those assigned by Professor Davy.

**19924 to 19930. ANDROPOGON SORGHUM.****Kafir corn.****19924.**

*Phikhulo.* A good, strong variety; prolific. (No. 3016/06-7.)

**19925.**

*Mothlokathlong*, meaning "without shame"; so called on account of its rapid growth. Requires lots of room between plants. (No. 3017/06-7.)

**19926.**

*Mogathla ou Kubu.* Not a favorite. (No. 3020/06-7.)

**19927.**

*Segope.* Long, thin stalks; requires protection from wind. (No. 3018/06-7.)

**19928.**

*Phale.* Makes excellent meal and beer; long stalks, and requires to be protected from wind. (No. 3013/06-7.)

**19929.**

*Mosadi Teighufa*, meaning "jealous woman." Vigorous and prolific; a great favorite with the natives for beer making. (No. 3014/06-7.)

**19930.**

*Mothlerane.* Strong growth and short stalks. (No. 3015/06-7.)

## 19924 to 19931—Continued.

19931. PENNISETUM SPICATUM.

Pearl millet.

A kind of hemp not unlike the head of a bulrush when in bearing; very rapid growth and good drought resister. Used by the Maxalanga a great deal.

## 19942 to 19950. IPOMOEA BATATAS.

Sweet potato.

From Port of Spain, Trinidad, British West Indies. Presented by Dr. E. André, through Mr. O. W. Barrett. Received March 7, 1907.

Sweet potatoes from Barbados, with notes by Doctor André.

19942.

*White Nut.* A very dry potato; takes five months to mature.

19943.

*Bourbon.* Very mellow; will keep in land nine months.

19944.

*White Scaly.* An early potato; bears well.

19945.

*Huffs.* A good potato; keeps well and is an excellent shipping variety.

19946.

*Minnie Wits.* An early potato; bears well.

19947.

*Stafford.* A nice edible potato; red skin.

19948.

*Hen and Chickens.* A very prolific variety.

19949.

*Fire Brass (red).* A very prolific variety; does not cook well.

19950.

*Caroline Sea.*

## 19952 and 19953. COLOCASIA spp.

Taro.

From Hilo, Hawaii. Presented by Mr. L. C. Lyman, principal, Hilo Boarding School, March 7, 1907.

19952.

*Lehua.*

19953.

*Kuoho.*

"Two of the best varieties of upland taro, named by the natives as above. The first named, the royal taro of the old Hawaiian kings, is of a pink color when cooked, and matures in about eight months.

"The other variety is most commonly raised; is white when cooked, and requires about a year to mature." (*Lyman.*)

## 19954 to 19956.

From Piracicaba, São Paulo, Brazil. Presented by Dr. J. W. Hart, director of the Agricultural College. Received October 26, 1906.

19954. PIPTADENIA COMMUNIS.

19956. TECOMA CHRYSANTHA.

19955. CINCHONA CARABAYENSIS.

Ipe 'Amarello.

## 19957. ROSA HUGONIS.

From Paris, France. Received from Vilmorin-Andrieux & Co., March 11, 1907.

Cuttings.

**19958. CHLORIS GAYANA.****Rhodes-grass.**

From Auckland, New Zealand. Received through E. C. Pilkington & Co., March 12, 1907.

**19959. CHLORIS GAYANA.****Rhodes-grass.**

From Sydney, New South Wales. Received through Anderson & Co., March 12, 1907.

**19960 to 19967.**

From Aburi, Gold Coast. Presented by Prof. A. E. Evans, Acting Director of Agriculture, through Mr. O. W. Barrett. Received March 16, 1907.

19960. EUPHORBIA sp.

19961. KIGELIA AFRICANA.

19962. GARCINIA HANBURYI.

19963. CARDIOSPERMUM BARBICAULE.

19964. SIDEROXYLON DULCIFICUM.

19965. MONODORA MYRISTICA.

19966. TELFAIRIA OCCIDENTALIS.

19967. BUTYROSPERMUM PARKII.

**19970. TRIFOLIUM PRATENSE.****Red clover.**

From Chile. Presented by the Courteen Seed Company, Milwaukee, Wis., through Prof. C. V. Piper. Received March 2, 1907.

*Chilean.***19972 to 19977. MEDICAGO SATIVA.****Alfalfa.**

From Rocky Ford, Colo. Received through Mr. P. K. Blinn, March 15, 1907.

Seed from individual plants selected by Mr. Blinn.

19972.

*Turkestan.* Yield, 66 grams. Fine stems; thick leaf system, but seeds ripened very irregularly; lot of green heads. (No. 1.)

19973.

*Turkestan.* Yield, 40 grams. Very uniform in ripening seed; no after-growth. (No. 9.)

19974.

*Turkestan.* Yield, 30 grams. No rust; seed uniformly ripe. (No. 11.)

19975.

*Turkestan.* Yield, 54 grams. Large heads; uniform set of seed; fairly uniform in ripening. (No. 12.)

19976.

*Turkestan.* Yield, 55 grams. Stems fine; leaves well retained; no rust; seed ripened up well, while stem and leaves remained green. (No. 16.)

19977.

Native. Plant found on railroad right of way under perfect "dry-farming conditions"; no irrigation within 75 to 100 feet; soil water at level 16 feet deep; sand-clay loam; yield of this plant, 49 grams; other plants near it failed entirely to seed; this plant had a fine large flower and head of rather light blue color.



**19978. PSIDIUM sp.****Guayabilla.**

From Colombia. Presented by Mr. Alfonso Delgada, Colombian consul, New Orleans, La., through Mr. O. W. Barrett. Received March 14, 1907.

"Seed of a guayabilla said to be native to the mountains of central Colombia and to resemble guava in many points." (*Delgada.*)

**19979. MUCUNA LYONI.**

From Manila, P. I. Presented by Mr. W. S. Lyon, of the Bureau of Agriculture, February 13, 1907.

"This species was grown in a number of places in the South in comparison with the ordinary velvet bean, and our belief, based on one season's work, is that lyoni is a distinct advance over utilis. It is especially characterized by its more rapid growth and much greater prolificness, which ought to make it possible to grow seed considerably cheaper than the seed of the Florida velvet bean." (*C. V. Piper.*)

**19980 to 19993.**

From Yokohama, Japan. Received through L. Roehmer & Co., March 19, 1907.

**19980. PHASEOLUS VULGARIS. Bean.**

Received under the name of "*Fuiri Mame*, speckled soja bean."

**19981. GLYCINE HISPIDA. Soy bean.**

Received under the name of "*Shiro Mame*, the white soja bean."

**19982. GLYCINE HISPIDA. Soy bean.**

Received under the name of "*Kuro Mame*, the black soja bean."

**19983. GLYCINE HISPIDA. Soy bean.**

Received under the name of "*Daizu* or *O-mame*, *Dolichos soja*."

**19984. GLYCINE HISPIDA. Soy bean.**

Received under the name of "*Wase* or *Natsu Mame*, early summer bean."

**19985. GLYCINE HISPIDA. Soy bean.**

Received under the name of "*Nagate Mame*, middle late bean."

**19986. GLYCINE HISPIDA. Soy bean.**

Received under the name of "*Okute Mame*, late bean."

**19987. GLYCINE HISPIDA. Soy bean.**

Received under the name of "*Kuro-Teppo Mame*, round, middle-late bean."

**19988. PHASEOLUS ANGULARIS. Adzuki bean.**

Received under the name of "*Oku Adzuki*, late *P. typicus*."

**19989. PHASEOLUS ANGULARIS. Adzuki bean.**

Received under the name of "*Azuki*, *P. radiatus*."

**19990. CANAVALIA ENSIFORMIS. Knife bean.**

Received under the name of "*Nata Mame*, white sword bean; *Dolichos incurvus*."

**19991. CANAVALIA ENSIFORMIS. Knife bean.**

Received under the name of "*Akai Nata Mame*, red sword bean; *Dolichos incurvus*."

**19992. PUERARIA THUNBERGIANA. Kudzu vine.****19993. LESPEDEZA CYRTOBOTRYA.**

**19994 to 19995.**

From Yokohama, Japan. Received through the Yokohama Nursery Company, March 14, 1907.

Plants imported for use in matting-plant experiments.

19994. *CYPERUS TEGETIFORMIS*.

Matting sedge.

19995. *JUNCUS EFFUSUS*.

Matting rush.

**19996. COLOCASIA ANTIQUORUM ESCULENTA.**

**Taro.**

From Funchal, Madeira. Received through Mr. David Fairchild, March 19, 1907.

"(No. 017, Feb. 22, 1907.) Sets of the so-called *Igname* of Madeira. Probably, but not certainly, the white, or *Branca*, variety. According to one of the green grocers here, John de Pontes, Rua dos Tanoeiros 40-42, these *Ignames* sell for 3 cents to 4 cents a pound, while sweet potatoes sell for only 2 cents. Crop comes in in February and ends in April. Keep well; yield about one-third that of sweet potatoes; plantations continually watered; planting at all times of the year; side rootstocks or tubers removed and the central stock left to form a perpetual plantation. The growers in the country boil the tubers before bringing them to market. Then they are brought down from the hills in great baskets and sold in this boiled condition for 5 pence (10 cents) a pound. They are very palatable and nourishing, I believe, and rank here as more of a delicacy than the sweet potato. Only two kinds are known here so far as I have ascertained." (*Fairchild.*)

**19997. COLOCASIA ANTIQUORUM ESCULENTA.**

**Taro.**

From Funchal, Madeira. Received through Mr. David Fairchild, March 19, 1907.

"(No. 018, Feb. 22, 1907.) Sets of the so-called *Vermeilho*, or red variety. There seems to be little preference given to either of these sorts (this one and S. P. I. No. 19996). These are just now coming into market as a crop. They are peeled or scraped, then boiled three to four hours in salt water." (*Fairchild.*)

**19998. JUNCUS sp.**

**Rush.**

From Caldas da Rainha, Portugal. Received through Mr. David Fairchild, March 19, 1907.

"(No. 018a, Feb. 28, 1907.) Roots and seeds of a very slender rush growing in very sandy soil near the waterways of this place. It is used for tying vines to their supports all over this part of Portugal and is sold in the market place. I measured some of the stems and found them 5½ feet long. They are unusually tough and slender. Mats are made from them also." (*Fairchild.*)

**19999. JUNCUS sp.**

**Rush.**

From Maorga, near Alcobasso, Portugal. Received through Mr. David Fairchild, March 19, 1907.

"(No. 019, Feb. 28, 1907.) Roots of a species of *Juncus* similar to, if not identical with, No. 018a, S. P. I. No. 19998, but from a field of *Juncus* which is cut over every year. The soil is a light, sandy one, just like that on Cat Island, S. C.; in fact, turpentine pines are growing all over the land. The rush grows in swampy places which are dry during a period of the year. Cutting is done in May. Used for matting and for tying vines." (*Fairchild.*)

**20001 to 20229.**

From Manchuria, northern Korea, and eastern Siberia. Received through Mr. Frank N. Meyer, agricultural explorer, February 20, 1907.

## 20001 to 20229—Continued.

A collection of seeds, as follows:

## 20001. PHASEOLUS VULGARIS.

Bean.

From Tok-sil-tong, northern Korea. "(No. 309a, Aug. 12, 1906.) A dwarf bean growing at an altitude from 2,000 to 4,000 feet above sea level. This is a very prolific variety and apparently requires far less heat than other varieties. Used boiled when either green or dry with rice, oats, barley, and millet." (*Meyer.*)

## 20002. PHASEOLUS VULGARIS.

Bean.

From Tok-sil-tong, northern Korea. "(No. 315a, Aug. 12, 1906.) A very nutritious climbing bean of which the seeds are used either green or dry in boiled rice, millet, oats, or barley." (*Meyer.*)

## 20003. PHASEOLUS VULGARIS.

Bean.

From Liaoyang, Manchuria. (No. 316a, June 8, 1906.)

## 20004. PHASEOLUS VULGARIS.

Bean.

From Tok-sil-tong, northern Korea. "(No. 317a, Aug. 12, 1906.) A very long, climbing, string bean; used as a vegetable when fresh." (*Meyer.*)

## 20005. VIGNA SESQUIPEDALIS.

From Antung, Manchuria. "(No. 310a, July 12, 1906.) A climbing string bean used as a summer vegetable when green; when dry is eaten boiled with rice." (*Meyer.*)

## 20006. VIGNA UNGUICULATA.

Cowpea.

From Antung, Manchuria. "(No. 311a, July 12, 1906.) A few black seeds found in No. 310a (S. P. I. No. 20005), and as such the same description applies to them." (*Meyer.*)

## 20007. PHASEOLUS ANGULARIS.

Adzuki bean.

From Shi-wa-nanan, northern Korea. "(No. 308a, July 20, 1906.) A variety of small beans growing at high altitudes on very poor soils. Are used as food, being boiled with rice and millet." (*Meyer.*)

## 20008. PHASEOLUS ANGULARIS.

Adzuki bean.

From near Musan, northern Korea. "(No. 312a, Sept. 1, 1906.) A dwarf bean growing at high altitudes. These beans are never eaten when fresh; when dry they are boiled with rice and millet." (*Meyer.*)

## 20009. PHASEOLUS ANGULARIS.

Adzuki bean.

From near Musan, northern Korea. "(No. 313a, Sept. 1, 1906.) Probably a whitish variety of No. 312a (S. P. I. No. 20008). This variety is little seen here." (*Meyer.*)

## 20010. PHASEOLUS ANGULARIS.

Adzuki bean.

From Shi-wa-nanan, northern Korea. "(No. 314a, July 20, 1906.) A few seeds found in No. 308a (S. P. I. No. 20007); apparently a different variety." (*Meyer.*)

## 20011. GLYCINE HISPIDA.

Soy bean.

From Ko-bau, northern Korea. "(No. 318a, Aug. 12, 1906.) A green variety of soy bean growing at high elevations. This variety is eaten as a food and is mostly grown in broad strips between buckwheat; a very late ripener. Seems to be the most northerly variety of soy bean seen yet and will do well in cool climes." (*Meyer.*)

## 20012. PHASEOLUS ACONITIFOLIUS.

From Musan, northern Korea. (No. 319a, Aug. 29, 1906.)

## 20001 to 20229—Continued.

## 20013. VICIA sp.

Vetch.

From near Tok-sil-tong, northern Korea. "(No. 320a, Aug. 12, 1906.) A vetch found growing in rocky, dry soils, sometimes covering a large expanse; may be a fodder plant." (*Meyer.*)

## 20014. VICIA sp.

Vetch.

From northern Korea. "(No. 321a, Sept. 6, 1906.) A broad-leaved vetch growing in hedges and making a growth of more than 10 feet. May be a fodder plant. Grow it on trellises." (*Meyer.*)

## 20015. VICIA sp.

Vetch.

From the mountains of northern Korea. "(No. 322a, Aug. 21, 1906.) A vetch with many flowers of a purplish blue color found growing along ditches. Attains a height of from 4 to 5 feet. May be a fodder plant." (*Meyer.*)

## 20016. VICIA sp.

Vetch.

From the mountains of northern Korea. "(No. 323a, Aug. 20, 1906.) A vetch found growing between shrubbery on peaty soil; makes big masses of foliage. May be a fodder plant." (*Meyer.*)

## 20017. VICIA sp.

Vetch.

From northern Korea. "(No. 324a, Sept. 6, 1906.) A narrow-leaved vetch growing 8 to 10 feet tall; found in hedges. May be a fodder plant. Grow it on trellises." (*Meyer.*)

## 20018. VICIA sp.

Vetch.

From northern Korea. "(No. 325a, Aug. 27, 1906.) A variety having few flowers, but many stems. May be a fodder plant." (*Meyer.*)

## 20019. VICIA sp.

Vetch.

From Lun-shi-dong, northern Korea. (No. 326a, Aug. 27, 1906.)

## 20020. LATHYRUS sp.

From northern Korea. (No. 327a, Aug. 20, 1906.)

## 20021. TRIFOLIUM sp.

Clover.

From northern Korea. "(No. 328a, Aug. 15, 1906.) A perennial clover found growing in rocky, strong soil. May be of use as a forage plant in dry, sterile regions." (*Meyer.*)

## 20022. TRIFOLIUM sp.

Clover.

From the mountains of northern Korea. "(No. 329a, Sept. 5, 1906.) A perennial clover found growing in sandy soil along a creek. For description see No. 328a (S. P. I. No. 20021)." (*Meyer.*)

## 20023. MEDICAGO sp.

Alfalfa.

From near Hoi-ryong, northern Korea. "(No. 330a, Sept. 5, 1906.) A small-leaved alfalfa of crawling habit; only one plant on a sandy waste. May be a very valuable forage and pasturing plant." (*Meyer.*)

## 20024. ASTRAGALUS sp.

From northern Korea. "(No. 331a, Sept. 6, 1906.) An annual growing in rocky river beds and on sandy wastes. See if it is a fodder plant for desert regions." (*Meyer.*)

## 20025. ERODIUM sp.

From near Musan, northern Korea. "(No. 332a, Sept. 1, 1906.) A species which grows on very sandy soils and may be of use as a fodder plant like the *Erodiums* in California." (*Meyer.*)

## 20001 to 20229—Continued.

## 20026. SPINACIA OLERACEA.

Spinach.

From Liaoyang, Manchuria. "(No. 267a, June 20, 1906.) A good, large-leaved spinach grown in sheltered places all through the winter and producing greens until early summer." (Meyer.)

## 20027. SPINACIA OLERACEA.

Spinach.

From Antung, Manchuria. "(No. 268a, July 12, 1906.) A large-leaved spinach grown in sheltered places during the whole winter and producing greens until early summer." (Meyer.)

## 20028. RAPHANUS SATIVUS.

Radish.

From Liaoyang, Manchuria. "(No. 269a, June 20, 1906.) A long, white, winter variety. Chinese name *Pai-loba*. The seeds are sown in the summer and the radishes are harvested before the frost sets in and are kept in rat-proof cellars." (Meyer.)

## 20029. RAPHANUS SATIVUS.

Radish.

From Liaoyang, Manchuria. "(No. 270a, June 20, 1906.) A long, white, summer variety. A rather good variety, of which the seeds are sown very early in the spring on somewhat sheltered places and which produces good roots in about ten weeks." (Meyer.)

## 20030. RAPHANUS SATIVUS.

Radish.

From Liaoyang, Manchuria. "(No. 271a, June 20, 1906.) A long, red, summer variety; eaten either boiled or stewed. A very good vegetable, which is even served in the foreign hotels in northern China. Sow early on well-prepared soil in sheltered places." (Meyer.)

## 20031. RAPHANUS SATIVUS.

Radish.

From Shan-hai-kwan, China. "(No. 272a, Apr. 28, 1906.) A white winter radish. Chinese name *Pa loba*." (Meyer.)

## 20032. RAPHANUS SATIVUS.

Radish.

From Shan-hai-kwan, China. "(No. 273a, Apr. 28, 1906.) A red winter radish. Chinese name *Hong loba*. Said to be a large variety. Plant 1 foot apart in each direction in porous soil." (Meyer.)

## 20033. BRASSICA PE-TSAI.

Pe-tsai cabbage.

From Liaoyang, Manchuria. "(No. 274a, June 20, 1906.) A summer cabbage; Chinese name *Pai tsay*. A loose-headed form of the Chinese cabbage. This variety is sown early in the spring and eaten all through the summer." (Meyer.)

## 20034. BRASSICA PE-TSAI.

Pe-tsai cabbage.

From Liaoyang, Manchuria. "(No. 275a, June 20, 1906.) For description see No. 274a (S. P. I. No. 20033); but this is said to be a somewhat inferior variety." (Meyer.)

## 20035. BRASSICA PE-TSAI.

Pe-tsai cabbage.

From Liaoyang, Manchuria. "(No. 276a, June 20, 1906.) Chinese name *Pai tsay*. A variety of cabbage which is used for salt pickling and is also dried in the sun. The pickled cabbage is considered a necessary relish at a Chinese meal." (Meyer.)

## 20036. BRASSICA PE-TSAI.

Pe-tsai cabbage.

From Liaoyang, Manchuria. "(No. 277a, June 7, 1906.) A superior variety of summer cabbage. Chinese name *Pai tsay*." (Meyer.)



## 20001 to 20229—Continued.

## 20037. BRASSICA PE-TSAL.

## Pe-tsai cabbage.

From Antung, Manchuria. "(No. 278a, June 12, 1906.) A variety of the Chinese summer cabbage, said to grow very large on moist, rich soils; does not stand great drought or heat. Can be bleached by tying the leaves together." (*Meyer*.)

## 20038. BRASSICA PE-TSAL.

## Pe-tsai cabbage.

From Antung, Manchuria. "(No. 279a, July 12, 1906.) Chinese name *Pai tsay*. These seeds came from a different grower, but in all probability are the same as No. 278a (S. P. I. No. 20037)." (*Meyer*.)

## 20039. BRASSICA PE-TSAL.

## Pe-tsai cabbage.

From Shan-hai-kwan, China. "(No. 280a, Apr. 28, 1906.) Chinese name *Pai tsay*. A good winter cabbage, said to grow on dry ground." (*Meyer*.)

## 20040. CUCUMIS MELO.

## Muskmelon.

From Antung, Manchuria. "(No. 290a, July 10, 1906.) A small, green melon. These fruits are eaten like apples by the Chinese and Koreans and are not bad. They may be of use to us as preserves or, when somewhat improved, as a table fruit. Require apparently less heat to ripen than ordinary muskmelons do." (*Meyer*.)

## 20041. CUCUMIS MELO.

## Muskmelon.

From Antung, Manchuria. "(No. 291a, July 10, 1906.) A small, white melon. For description see No. 290a (S. P. I. No. 20040)." (*Meyer*.)

## 20042. CUCUMIS MELO.

## Muskmelon.

From Tcho-san, northern Korea. "(No. 292a, Aug. 4, 1906.) A small, green melon. For description see No. 290a (S. P. I. No. 20040)." (*Meyer*.)

## 20043. CUCUMIS MELO.

## Muskmelon.

From Pyok-tong, northern Korea. "(No. 293a, July 24, 1906.) A small, green melon. For description see No. 290a (S. P. I. No. 20040)." (*Meyer*.)

## 20044. CUCUMIS MELO.

## Muskmelon.

From Kang-ko, northern Korea. "(No. 294a, Aug. 8, 1906.) A somewhat larger variety than No. 290a (S. P. I. No. 20040); otherwise the same description applies to it." (*Meyer*.)

## 20045. CUCUMIS MELO.

## Muskmelon.

From Newchwang, Manchuria. "(No. 295a, May 19, 1906.) Melon seeds obtained from Rev. J. Carson, of Newchwang, who procured them from a party from Australia. Said to be good for jam." (*Meyer*.)

## 20046. BRASSICA PE-TSAL.

## Pe-tsai cabbage.

From Liaoyang, Manchuria. (No. 298a, June 4, 1906.)

## 20047. BRASSICA JUNCEA.

## Chinese mustard.

From Liaoyang, Manchuria. "(No. 299a, June 4, 1906.) Chinese name *Tje chwa*. The leaves and lower stalks are eaten either fresh or pickled." (*Meyer*.)

## 20048. LACTUCA SATIVA.

## Lettuce.

From Liaoyang, Manchuria. "(No. 300a, June 4, 1906.) Chinese name *Sun tsay*. Probably not to be compared with our lettuce, but may be useful in breeding." (*Meyer*.)



## 20001 to 20229—Continued.

## 20049. LACTUCA SATIVA.

Lettuce.

From Shan-hai-kwan, China. "(No. 301a, Apr. 23, 1906.) Chinese name *Chin tsi*. For description see No. 300a (S. P. I. No. 20048)." (Meyer.)

## 20050. BETA VULGARIS.

Beet.

From Liaoyang, Manchuria. "(No. 302a, June 4, 1906.) Chinese name *Kun to tsay*. The leaves are used as a vegetable." (Meyer.)

## 20051. CUCUMIS SATIVUS.

Cucumber.

From Liaoyang, Manchuria. "(No. 303a, June 20, 1906.) Chinese name *Gwan kwa*. A long, green cucumber used as an early vegetable. Grows on trellises made from sorghum stalks and in warm sheltered situations." (Meyer.)

## 20052. LAGENARIA VULGARIS.

Gourd.

From Liaoyang, Manchuria. "(No. 304a, June 4, 1906.) Chinese name *Gu tsa*. A gourd eaten boiled as a vegetable; when young it is also pickled in brine." (Meyer.)

## 20053. ALLIUM SATIVUM.

Garlic.

From Liaoyang, Manchuria. (No. 305a, June 4, 1906.)

## 20054. ALLIUM CEPA.

Onion.

From Liaoyang, Manchuria. "(No. 306a, June 4, 1906.) An inferior Chinese onion; used sparingly as a vegetable, not being strong enough to suit the Celestial palate." (Meyer.)

## 20055. SONCHUS sp.

From Musan, northern Korea. "(No. 307a, Aug. 29, 1906.) A wild vegetable, the young leaves of which are usually served raw as a salad, but they are also sometimes boiled. It tastes like the dandelion and is well worth trying. Can probably be easily forced. However, on sandy loam it is sometimes a bad weed, so I would recommend to be quite careful with it in testing." (Meyer.)

## 20056. CANNABIS SATIVA.

Hemp.

From Yentai, Manchuria. "(No. 281a, June 1, 1906.) Chinese name *Shem ma*. These seeds come from the rich plain between Mukden and Liaoyang, where the soil is a heavy yellow loam. The seeds are thickly sown broadcast and the stems are harvested when they begin to set seeds." (Meyer.)

## 20057. CANNABIS SATIVA.

Hemp.

From Liaoyang, Manchuria. "(No. 282a, June 2, 1906.) Chinese name *Shem ma*. Probably the same as No. 281a (S. P. I. No. 20056)." (Meyer.)

## 20058. CANNABIS SATIVA.

Hemp.

From Newchwang, Manchuria. "(No. 283a, May 22, 1906.) Seed obtained from Mr. T. Sammons, American consul-general, Newchwang, who obtained the seeds from Hai-tcheng, Manchuria. This is a fine variety of hemp." (Meyer.)

(See S. P. I. No. 17528.)

## 20059. ABUTILON AVICENNAE.

China jute.

From Newchwang, Manchuria. "(No. 284a, May 22, 1906.) Seed obtained from Mr. T. Sammons, American consul-general, Newchwang, who obtained the seed from Hai-tcheng, Manchuria. This is a coarse variety of hemp used for rope making." (Meyer.)

(See S. P. I. No. 17529.)

## 20001 to 20229—Continued.

## 20060. ABUTILON AVICENNAE.

China jute.

From Hun-chun, Manchuria. "(No. 287a, Sept. 9, 1906.) Chinese name *Pai ma*. Seed of a red-stemmed variety of Abutilon; apparently a sport from the white variety. The fiber is used for rope making." (Meyer.)

## 20061. PAPAVER SOMNIFERUM.

Opium poppy.

From Antung, Manchuria. "(No. 285a, July 12, 1906.) Plants grow in a rather light, black soil, and the seed is sown in rows as soon as the frost leaves the soil." (Meyer.)

## 20062. PAPAVER SOMNIFERUM.

Opium poppy.

From near Antung, Manchuria. "(No. 286a, July 2, 1906.) This poppy is cultivated in large fields near Antung. A field in full bloom presents a color spectacle well worth seeing, the colors of the petals ranging from pure white to almost black purple. The individual colors may show marked differences in opium production. The soil is a rather poor blackish one, with much stony matter thrown in." (Meyer.)

## 20063. NICOTIANA CHINENSIS.

Tobacco.

From Tan-ti-ku-li, northern Korea. "(No. 288a, Aug. 6, 1906.) A large-leaved tobacco seen here and there, and is a far superior variety to the ordinary kinds." (Meyer.)

## 20064. (Undetermined.)

From Hoi-ryong, northern Korea. "(No. 289a, Sept. 4, 1906.) Seed of a plant said to come from southern Korea. The berries are used in dyeing ribbons a deep orange color; they are, however, said to be quite poisonous. Probably a Solanaceae." (Meyer.)

## 20065. CAPSICUM ANNUM.

Red pepper.

From Liaoyang, Manchuria. "(No. 296a, June 20, 1906.) Chinese name *La djo*. A large variety of Chili pepper grown in the market gardens around Liaoyang." (Meyer.)

## 20066. CAPSICUM ANNUM.

Red pepper.

From Liaoyang, Manchuria. "(No. 297a, June 5, 1906.) A small-fruited variety of Chili pepper grown more or less for ornament and also for a condiment." (Meyer.)

## 20067. PRUNUS ARMENIACA.

Apricot.

From Antung, Manchuria. "(No. 335a, July 10, 1906.) A large, reddish apricot with solid flesh; said to come from Chefoo, China." (Meyer.)

## 20068. PRUNUS ARMENIACA.

Apricot.

From Musan, northern Korea. "(No. 336a, July 16, 1906.) Apricots growing in semiwild state in the mountains. The trees grow to large sizes, but the fruits are of inferior flavor and size." (Meyer.)

## 20069. PRUNUS ARMENIACA.

Apricot.

From the mountains near Musan, northern Korea. "(No. 337a, July 20, 1906.) A wild apricot growing to a medium-sized tree and having very corky bark and large, heavily serrated leaves. Fruits small and inedible. May be a good stock plant for the colder regions, or can be used as a park tree in the Atlantic Coast States." (Meyer.)

## 20070. PRUNUS ARMENIACA.

Apricot.

From Ai-djou, northern Korea. "(No. 338a, July 16, 1906.) A wild, bushy apricot growing in the dry, rocky mountains; produces small, scarcely edible fruits." (Meyer.)

## 20001 to 20229—Continued.

## 20071. PRUNUS ARMENIACA.

Apricot.

From near Tehang-song, northern Korea. "(No. 339a, July 21, 1906.) Wild apricot seeds from a very tall tree, which was about 40 feet high and of which the trunk measured 10 feet in circumference a few feet above the soil. Can be used as a shade tree in parks. Fruits small and worthless." (*Meyer.*)

## 20072. PRUNUS ARMENIACA.

Apricot.

From Liaoyang, Manchuria. "(No. 340a, June 21, 1906.) A red apricot grown in the gardens of Liaoyang, all the trees being seedlings; fruit medium sized and of very sweet flavor." (*Meyer.*)

## 20073. PRUNUS sp.

Plum.

From the mountains of northern Korea. "(No. 341a, Aug., 1906.) A very bushy wild plum growing along creeks and moist places. The fruits are medium sized and very sour. May be used as a stock plant or for hybridization." (*Meyer.*)

## 20074. PRUNUS sp.

Plum.

From Antung, Manchuria. "(No. 342a, July 10, 1906.) A very large yellow plum obtained in Antung, but said to come from Chefoo." (*Meyer.*)

## 20075. PRUNUS sp.

Cherry.

From Fong-whan-cheng, Manchuria. "(No. 343a, July 1, 1906.) This edible bush cherry is a very ornamental shrub when in full fruit. The fruits make fine preserves." (*Meyer.*)

## 20076. PRUNUS sp.

From Sha-ho, Manchuria. "(No. 344a, June 26, 1906.) A shrubby *Prunus* growing in a rocky ravine; perhaps an ornamental hardy bush." (*Meyer.*)

## 20077. PRUNUS sp.

Chokecherry.

From the mountains of northern Korea. "(No. 345a, Aug. 11, 1906.) A large-leaved chokecherry bearing large racemes of cherries in profusion. Grows to be a small tree or a large shrub. In the fall the leaves assume very brilliant hues. May be of use as an ornamental park plant." (*Meyer.*)

## 20078. PRUNUS sp.

Chokecherry.

From the mountains of northern Korea. "(No. 346a, Aug., 1906.) Seed collected in different places. In all probability different strains will appear from this seed, for some bushes showed marked small differences in comparison with others." (*Meyer.*)

## 20079. PRUNUS sp.

Chokecherry.

From the mountains of northern Korea. "(No. 347a, Aug. 6, 1906.) A very ornamental chokecherry with large, ovate, lanceolate leaves. Can be used as a small ornamental tree in parks." (*Meyer.*)

## 20080. PRUNUS GLANDULIFOLIA.

Chokecherry.

From the mountains of northern Korea. "(No. 348a, Aug. 9, 1906.) A small-leaved, ornamental chokecherry. May be useful in parks and in gardens. The straight young stems may be useful for making smoking-pipe stems, and the heavier pieces of the trunk produce fine wood for small furniture." (*Meyer.*)

## 20081. PRUNUS sp.

Chokecherry.

From the mountains of northern Korea. "(No. 349a, Aug. 21, 1906.) A small-leaved chokecherry with slender, drooping branches. An ornamental small tree for parks and gardens." (*Meyer.*)

## 20001 to 20229—Continued.

## 20082. PRUNUS sp.

## Chokecherry.

From the mountains of northern Korea. "(No. 350a, Aug. 11, 1906.) A broad-leaved, bushy chokecherry growing in rocky places. May be of use as an ornamental shrub for parks; seems to be very hardy." (Meyer.)

## 20083. PRUNUS sp.

## Chokecherry.

From the mountains of northern Korea. "(No. 351a, Aug. 9, 1906.) A species of chokecherry with large leaves which are quite hirsute, especially underneath. Well adapted as an ornamental tall shrub for parks and gardens." (Meyer.)

## 20084. PRUNUS sp.

## Cherry.

From the mountains of northern Korea. "(No. 352a, Aug. 21, 1906.) A small wild cherry; fruits black and inedible. The shrub or small tree is quite handsome in appearance and can be used in gardens and parks. Only two or three trees seen during the whole trip through northern Korea and only two had a few seeds." (Meyer.)

## 20085. PRUNUS PUMILA.

## Sand cherry.

From the mountains of northern Korea. "(No. 353a, Aug. 20, 1906.) A large-fruited form; fruits very sour and inedible." (Meyer.)

## 20086. PRUNUS PUMILA.

## Sand cherry.

From Musan, northern Korea. "(No. 354a, Aug. 29, 1906.) A sand cherry with large fruits produced in great abundance; fruits not sour, though not of good quality. May be improved or used in parks, gardens, or rockeries; as a bush in full bearing is decidedly beautiful. Height of bushes, 2 to 3 feet." (Meyer.)

## 20087. PRUNUS PUMILA.

## Sand cherry.

From Shako-san, northern Korea. "(No. 355a, Aug. 1, 1906.) A sand cherry growing on the banks of the Yalu River. For description, see No. 354a (S. P. I. No. 20086)." (Meyer.)

## 20088. PRUNUS PUMILA.

## Sand cherry.

From the mountains of northern Korea. "(No. 356a, July 22, 1906.) A heavy-bearing, though very small-fruited, sand cherry; not edible. For description see No. 354a (S. P. I. No. 20086)." (Meyer.)

## 20089. PINUS KORAIENSIS.

## Pine.

From Ai-djou, northern Korea. "(No. 333a, July 14, 1906.) An edible pine nut obtained in Ai-djou; is produced by a tall, bluish pine which I afterwards saw in the forests near Pek-to-san. It is an excellent timber tree, growing to be 150 feet tall and making a straight, clean stem." (Meyer.)

## 20090. PINUS KORAIENSIS.

## Pine.

From Vladivostok, Siberia. "(No. 334a, Sept. 20, 1906.) Edible pine seeds bought at a Chinese fruit stand in Vladivostok. Probably the same as No. 333a (S. P. I. No. 20089)." (Meyer.)

## 20091. PINUS THUNBERGII.

## Japanese black pine.

From the mountains of northern Korea. "(No. 504a, Sept. 1, 1906.) A beautiful pine with light green foliage and making dense, round heads; also a good lumber tree. Grows in the driest of situations and on very poor soil; does not grow, though, at great altitudes, so will probably not bear any severe cold. Of use as an ornamental park tree." (Meyer.)

## 20092. ZIZYPHUS SATIVA.

## Jujube.

From Vladivostok, Siberia. "(No. 505a, Sept. 26, 1906.) A large-fruited 'date' obtained at Vladivostok, where the Chinese import them from Chefoo, China." (Meyer.)

## 20001 to 20229—Continued.

## 20093. SOPHORA JAPONICA.

Japanese pagoda tree.

From Liaoyang, Manchuria. "(No. 368a, June 4, 1906.) A much smaller variety of *Sophora* than is generally seen, growing as a shrub or a small tree with smaller leaves, branches, pods, etc.; quite ornamental and well worth growing. Only a few trees seen in a yard near Liaoyang." (Meyer.)

## 20094. COLUTEA sp.

From Port Arthur, Manchuria. "(No. 369a, May 14, 1906.) Probably *Colutea fruticosa*. Used in the parks in Port Arthur as an ornamental shrub. As the climate there is very dry, the shrubs and trees from there will thrive in semiarid regions." (Meyer.)

## 20095. AMORPHIA sp.

From Port Arthur, Manchuria. (No. 370a, May 14, 1906.)

## 20096. (Undetermined.)

From Port Arthur, Manchuria. "(No. 371a, May 14, 1906.) A shrub of bushy habit, with slender branches and lanceolate leaves, growing in the parks of Port Arthur along the sidewalks; well adapted for this purpose." (Meyer.)

## 20097. XANTHOXYLUM AILANTHOIDES.

From Port Arthur, Manchuria. "(No. 372a, May 14, 1906.) A small ornamental tree growing in the parks in Port Arthur." (Meyer.)

## 20098. ELAEAGNUS sp.

From Port Arthur, Manchuria. "(No. 373a, May 15, 1906.) An *Elaeagnus* with silvery leaves and bearing white berries; grows to be a tall shrub with long branches. Quite beautiful when seen in clumps." (Meyer.)

## 20099. ELAEAGNUS sp.

From Port Arthur, Manchuria. "(No. 374a, May 15, 1906.) A variety with black seeds; grows to be somewhat larger than the preceding one; otherwise the same remarks apply to it." (Meyer.)

## 20100. TILIA MANDSHURICA.

Linden.

From near Mukden, Manchuria. "(No. 375a, May 29, 1906.) A very large leaved linden from the forest around the Imperial East Tomb, near Mukden. A handsome tree, of which the leaves sometimes reach the size of 1 foot across in each direction." (Meyer.)

## 20101. ARALIA sp.

From A-teuk-ryong, northern Korea. "(No. 376a, Aug. 10, 1906.) A low ornamental shrub, with handsome, large, light green leaves and bearing large clusters of scarlet berries. Grows in shady places in the primeval forests; seems to prefer leaf mold." (Meyer.)

## 20102. ARALIA sp.

From Tchong-ping, northern Korea. "(No. 377a, Aug. 19, 1906.) A shrubby *Aralia* growing from 5 to 10 feet tall, with palmately divided leaves and bearing an abundance of black berries in umbels." (Meyer.)

## 20103. ARALIA MANDSHURICA.

From Possiet, Siberia. "(No. 378a, Sept. 10, 1906.) A very large leaved *Aralia*, the leaves sometimes becoming 3 to 4 feet long. Seems to be very hardy and drought resistant." (Meyer.)



## 20001 to 20229—Continued.

## 20104. ACANTHOPANAX SESSILIFLORUM.

From Liaoyang, Manchuria. "(No. 379a, June 1, 1906.) An Aralia-like shrub growing in the Scottish mission garden in Liaoyang. May be utilized in parks and large gardens; not as ornamental, perhaps, as could be wished for, but apparently very hardy and drought resistant." (Meyer.)

## 20105. CRATAEGUS SANGUINEA.

Hawthorn.

From the mountains of northern Korea. "(No. 380a, Aug., 1906.) A very hardy, ornamental Crataegus growing as a tall shrub or small tree. Has light green, somewhat tomentose foliage, and is covered in the fall with orange-scarlet berries. The berries are edible, but are rather flat and mealy to our taste. Well adapted for planting in parks." (Meyer.)

## 20106. CRATAEGUS SANGUINEA.

Hawthorn.

From the mountains near the source of the Tumen River, northern Korea. "(No. 381a, Aug. 27, 1906.) Seeds from trees growing at high altitudes, over 3,000 feet, and apparently the limit zone of this Crataegus. Ought to be hardier than No. 380a (S. P. I. No. 20105); otherwise the same description applies to it." (Meyer.)

## 20107. CRATAEGUS SANGUINEA.

Hawthorn.

From the mountains of northern Korea. "(No. 382a, Aug. 5, 1906.) A variety bearing yellow berries; not as handsome as the usual type." (Meyer.)

## 20108. CRATAEGUS PINNATIFIDA.

Hawthorn.

From the mountains of northern Korea. "(No. 383a, Aug. 28, 1906.) A variety having very finely pinnate leaves. The fruits are much smaller and ripen later than those of the usual type. This may be a distinct variety or strain." (Meyer.)

## 20109. CRATAEGUS PINNATIFIDA.

Hawthorn.

From the mountains of northern Korea. "(No. 384a, Aug. 28, 1906.) A variety quite handsome in appearance, having large, glossy, dark green leaves; bears very few fruits, however." (Meyer.)

## 20110. SORBUS SP.

From the mountains of northern Korea. "(No. 385a, Aug. 27, 1906.) A Sorbus seen usually as a shrub, but in the forests it grows to be a tall, slender tree; apparently a very scant bearer, as I saw only two shrubs in fruit, but the large clusters of yellow berries contrast beautifully with the tender, pinnate foliage." (Meyer.)

## 20111. BERBERIS SP.

Barberry.

From the mountains of northern Korea. "(No. 386a, Aug. 28, 1906.) A large-leaved Berberis growing 6 to 10 feet tall and bearing many racemes of red berries." (Meyer.)

## 20112. BERBERIS SP.

Barberry.

From the mountains of northern Korea. "(No. 387a, Sept. 2, 1906.) A large-leaved Berberis from a different locality than the preceding one; otherwise the same remarks apply to it." (Meyer.)

## 20113. ROSA SP.

Rose.

From northern Korea. "(No. 388a, Aug., 1906.) Fruits collected from rose bushes in different parts of northern Korea; probably several distinct species." (Meyer.)



## 20001 to 20229—Continued.

20114. *SAMBUCUS RACEMOSA*.

Elder.

From the mountains of northern Korea. "(No. 389a, Aug., 1906.) Seed collected from bushes growing at an altitude of from 4,000 to 5,000 feet. The bushes at these altitudes do not grow higher than 4 or 5 feet, but are extremely beautiful, being loaded with large clusters of scarlet berries, which contrast vividly with the bright green, glossy foliage. This is a very hardy shrub, growing on the poorest of soils and really looking better in colder climes than in the warmer altitudes. Perhaps a good shrub for the Northwestern States." (*Meyer*.)

20115. *VIBURNUM* sp.

From the mountains of northern Korea. "(No. 390a, Aug. 20, 1906.) A *Viburnum* with rather small, light green leaves and bearing small umbels of white flowers, followed by berries which turn from green to red, and when ripe to jet black. Grows from 4 to 10 feet high. Seems to prefer calcareous rocky soil." (*Meyer*.)

20116. *VIBURNUM* sp.

From the mountains of northern Korea. "(No. 391a, Aug. 28, 1906.) Collected in a different locality and from taller shrubs than No. 390a; otherwise the same remarks apply to it." (*Meyer*.)

20117. *BETULA* sp.

Birch.

From the mountains of northern Korea. "(No. 392a, Aug. 11, 1906.) A beautiful white birch, the bark of which is used as roofing material in the mountain regions, also for illuminating purposes, taking the place of our lamps and candles. In the forests this tree grows to be over 100 feet tall, but solitary specimens never reach that size." (*Meyer*.)

20118. *BETULA* sp.

Birch.

From Tchong-ping, northern Korea. "(No. 393a, Aug. 20, 1906.) A very low, bushy, dwarf birch, with blackish bark, growing 3 to 4 feet high, on a cold plain, high in the mountains, where the soil consisted of black peat. Used locally for making brooms." (*Meyer*.)

20119. *BETULA* sp.

Birch.

From the mountains of northern Korea. "(No. 394a, Aug. 15, 1906.) A bush birch, 6 to 10 feet tall, growing in a high mountain valley, only two or three specimens together." (*Meyer*.)

20120. *CORNUS* sp.

Dogwood.

From near Tchang-song, northern Korea. "(No. 395a, July 20, 1906.) A tall-growing tree, with beautiful, large leaves; quite rare in southern Manchuria and northern Korea." (*Meyer*.)

20121. *CORNUS* sp.

Dogwood.

From the mountains of northern Korea. "(No. 396a, Aug. 11, 1906.) A medium-sized shrub, growing mostly in rocky soil along water courses. Has large, light green leaves and reddish colored twigs, and is sometimes loaded with clusters of white berries." (*Meyer*.)

20122. *SPIRAEA* sp.

Spirea.

From the mountains of northern Korea. "(No. 397a, Aug. 11, 1906.) A very shrubby *Spiraea*, 4 to 5 feet tall, found growing along rocky ravines." (*Meyer*.)

20123. *SPIRAEA* sp.

Spirea.

From Tchien-shan Mountains, Manchuria. "(No. 398a, June 9, 1906.) A *Spiraea* found growing on rocky, exposed places in the mountains." (*Meyer*.)

## 20001 to 20229—Continued.

## 20124. (Undetermined.)

From near Tchang-song, northern Korea. "(No. 399a, July 20, 1906.) A shrub with rather large leaves, growing in shady ravines." (*Meyer.*)

## 20125. CARAGANA sp.

From the mountains at the source of the Tumen River, northern Korea. (No. 400a, Aug. 27, 1906.)

## 20126. JUNIPERUS CHINENSIS.

From Liaoyang, Manchuria. "(No. 401a, June 4, 1906.) This tree thrives but poorly at Liaoyang, it being too cold for it." (*Meyer.*)

## 20127. LESPEDEZA sp.

From Tchien-shan Mountains, Manchuria. "(No. 402a, June 8, 1906.) A small, ornamental shrub, bearing many racemes of rosy colored flowers; thrives on high, dry land. Of use in gardens and along embankments as a low, ornamental shrub." (*Meyer.*)

## 20128. SALIX sp.

Willow.

From the mountains of northern Korea. "(No. 403a, Aug. 15, 1906.) For description see No. 529 (S. P. I. No. 19527)." (*Meyer.*)

## 20129. (Undetermined.)

From the mountains of northern Korea. "(No. 404a, Aug. 20, 1906.) A woody climber, with large, light green leaves and bearing panicles of small, whitish green flowers, followed by large quantities of three-winged seeds. Apparently can stand low temperatures, as it is even found on high mountain tops." (*Meyer.*)

## 20130. (Undetermined.)

From northern Korea. "(No. 405a, Aug. 11, 1906.) Seed of a low bush growing on wet, peaty soil and having glossy green, ovate, lanceolate leaves and bearing scarlet berries." (*Meyer.*)

## 20131. AZALEA sp.

Azalea.

From the mountains near Musan, northern Korea. "(No. 406a, July 16, 1906.) A shrubby Azalea bearing pale purplish flowers, found growing in the mountains." (*Meyer.*)

## 20132. (Undetermined.)

From the mountains of northern Korea. "(No. 407a, July 20, 1906.) A low, ornamental shrub looking like a Spiraea, but with raspberry-like leaves, found growing in profusion along a shady road." (*Meyer.*)

## 20133. RHAMNUS sp.

Buckthorn.

From the mountains of northern Korea. "(No. 408a, Aug. 28, 1906.) An ornamental Rhamnus, with broad, light green leaves, growing usually as a large shrub, but seen occasionally as a small tree." (*Meyer.*)

## 20134. RHAMNUS sp.

Buckthorn.

From the mountains of northern Korea. "(No. 409a, Aug. 15, 1906.) A small-leaved Rhamnus of very dense growth. Well adapted for use as a hedge and for dwarfing and clipping purposes." (*Meyer.*)

## 20135. RHAMNUS sp.

Buckthorn.

From the mountains of northern Korea. "(No. 410a, Aug. 20, 1906.) A small-leaved Rhamnus of not as dense growth as the preceding; otherwise the same remarks apply to it." (*Meyer.*)

## 20001 to 20229—Continued.

## 20136. AMELANCHIER sp (?).

From the mountains of northern Korea. "(No. 411a, Aug., 1906.) A shrub bearing small, inedible fruits like crab apples and with leaves like a small *Viburnum opulus*. Seems to prefer shady spots in the higher altitudes." (Meyer.)

## 20137. MALUS sp.

Crab apple.

From the mountains of northern Korea. "(No. 412a, Aug. 20, 1906.) A few seeds of a wild crab apple bearing very small, hard fruits. Grows usually as a shrub, but in sheltered places becomes a tree." (Meyer.)

## 20138. EUONYMUS sp.

From the mountains of northern Korea. "(No. 413a, Aug. 28, 1906.) A small-leaved, hardy Euonymus, growing very compactly." (Meyer.)

## 20139. EUONYMUS sp.

From the mountains of northern Korea. "(No. 414a, Aug. 28, 1906.) A dense-growing, small-leaved bush, with corky wings along its branches." (Meyer.)

## 20140. EUONYMUS sp.

From the mountains of northern Korea. "(No. 415a, Aug. 9, 1906.) A large-leaved Euonymus growing in dense shade in the forest and bearing four-winged fruits." (Meyer.)

## 20141. LONICERA sp.

Honeysuckle.

From the mountains of northern Korea. "(No. 416a, Aug. 12, 1906.) A large-leaved *Lonicera*, with large, scarlet berries." (Meyer.)

## 20142. LONICERA sp.

Honeysuckle.

From the mountains of northern Korea. "(No. 417a, Aug. 12, 1906.) A medium-sized, bushy honeysuckle growing in large masses and bearing scarlet berries." (Meyer.)

## 20143. LONICERA sp.

Honeysuckle.

From the mountains of northern Korea. "(No. 418a, Aug. 12, 1906.) A low, bush honeysuckle with bright green, medium-sized leaves and scarlet berries." (Meyer.)

## 20144. LONICERA sp.

Honeysuckle.

From the mountains of northern Korea. "(No. 419a, Aug. 21, 1906.) A bushy honeysuckle growing 10 to 12 feet high; leaves larger and darker green than the ordinary type." (Meyer.)

## 20145. LONICERA sp.

Honeysuckle.

From Bo-tau-shan Mountains, northern Korea. "(No. 420a, Aug. 24, 1906.) A low, shrubby honeysuckle, 3 to 4 feet high, bearing pretty blue berries of repulsive taste. These shrubs grow only at high altitudes and may be used in the colder parts of the United States as ornamental garden shrubs." (Meyer.)

## 20146. LONICERA sp.

Honeysuckle.

From Sa-mai-tsi, Manchuria. "(No. 421a, July 27, 1906.) A large, bushy honeysuckle, becoming somewhat shaggy when old. When young, however, it is a fine shrub, bearing thousands of small, white, fragrant flowers." (Meyer.)

## 20147. ALNUS sp.

Alder.

From the mountains of northern Korea. "(No. 422a, Sept. 1, 1906.) A large-leaved alder growing along water courses; quite a handsome shrub." (Meyer.)

## 20001 to 20229—Continued.

20148. *ALNUS* sp.

Alder.

From near Tok-sil-tong, northern Korea. "(No. 423a, Aug. 12, 1906.) A large-leaved, dark green alder growing in rocky soil along a stream. Apparently grows to be only a tall shrub; at least no trees of it were seen." (*Meyer.*)

20149. *ACER GINNALA*.

Maple.

From the mountains of northern Korea. "(No. 424a, August, 1906.) A dwarf, bushy maple with small, scarcely lobed leaves and bearing an abundance of fruits, which assume beautiful rosy and red colors toward the end of summer. It is exported from the Yalu River to ports in China, where the shoots with leaves on them are used in the manufacture of a black dye." (*Meyer.*)

20150. *ACER* sp.

Maple.

From the mountains of northern Korea. "(No. 425a, Aug. 16, 1906.) A tall, bushy maple with rather large, dark green leaves." (*Meyer.*)

20151. *ACER GINNALA*.

Maple.

From the mountains of northern Korea. "(No. 426a, Aug. 20, 1906.) A bushy maple with very slender branches and small leaves; probably a variety of No. 424a (S. P. I. No. 20149), and as such the same description applies to it." (*Meyer.*)

20152. *ACER* sp.

Maple.

From the mountains of northern Korea. "(No. 427a, Aug. 21, 1906.) A rather large leaved maple growing to be a very tall shrub or sometimes a small tree; always found growing between other trees and not as solitary specimens in open spaces." (*Meyer.*)

20153. *ACER* sp.

Maple.

From the mountains of northern Korea. "(No. 428a, Aug. 21, 1906.) A large-leaved maple growing to be a tall shrub or a small tree in the dense forests." (*Meyer.*)

20154. *PAEONIA* sp.

Peony.

From Bo-tau-shan Mountains, northern Korea. "(No. 429a, Aug. 23, 1906.) A wild peony growing in the primeval forest at high altitudes, 3,000 to 4,000 feet, on decomposed sandstone." (*Meyer.*)

20155. *SAXIFRAGA TABULARIS*.

From the mountains of northern Korea. "(No. 430a, Aug. 27, 1906.) A Saxifraga having circular leaves which are sometimes over 1 foot in diameter. Grows in cool, shady places in the forests; prefers a sandy soil." (*Meyer.*)

20156. *SAXIFRAGA* sp.

From the mountains near Musan, northern Korea. "(No. 431a, July 16, 1906.) A Saxifraga growing in the rocks in shady places. In the distance it looks exactly like a vigorous *Ampelopsis veitchii*." (*Meyer.*)

20157. *DRACOCEPHALUM* sp.

From near Tchang-song, northern Korea. "(No. 432a, July 21, 1906.) An ornamental labiate with large, blue flowers; probably a perennial. Found only on sandy soil." (*Meyer.*)

20158. *ASPARAGUS* sp.

From near Mai-mi-la, northern Korea. "(No. 433a, Aug. 12, 1906.) An ornamental leaf asparagus with straight stems and beautiful, light green, feathery foliage; grows from 2 to 4 feet tall." (*Meyer.*)

(See S. P. I. No. 20357.)

## 20001 to 20229—Continued.

## 20159. AMARANTHUS sp.

From near Hunchun, Manchuria. "(No. 434a, Sept. 7, 1906.) An ornamental *Amaranthus* with large, drooping plumes of canary-yellow color." (Meyer.)

## 20160. AMARANTHUS sp.

From Newchwang, Manchuria. "(No. 435a, May 18, 1906.) Seed of an *Amaranthus*, which is said to be an ornamental garden plant, obtained from Rev. J. Carson, of Newchwang, who received the seed from Japan." (Meyer.)

## 20161. AMARANTHUS sp.

From Newchwang, Manchuria. "(No. 436a, May 17, 1906.) Seed of an *Amaranthus* which is grown for ornament in Chinese gardens and of which the young seedlings are also used as a vegetable. Chinese name *Lao tai pien*. Obtained from Rev. J. Carson, of Newchwang." (Meyer.)

## 20162. DELPHINIUM sp.

Larkspur.

From Newchwang, Manchuria. "(No. 437a, May 18, 1906.) A dark blue, perennial larkspur, of use as an ornamental garden plant in dry, cold regions. Seeds obtained from Rev. J. Carson, who received them from a friend in Kai-chow, Manchuria." (Meyer.)

## 20163. (Undetermined.)

From Newchwang, Manchuria. "(No. 438a, May 18, 1906.) A wild composite known as 'autumn daisy.' Seed obtained from Rev. J. Carson." (Meyer.)

## 20164. ANEMONE sp.

From Fong-whang-shen, Manchuria. "(No. 439a, June 30, 1906.) A wild anemone found only on sandy soil; probably an ornamental." (Meyer.)

## 20165. REHMANNIA GLUTINOSA.

From Liaoyang, Manchuria. "(No. 440a, June 21, 1906.) An ornamental plant found growing on the city walls of Peking and Liaoyang. Has rather large spikes of brownish purple flowers." (Meyer.)

## 20166. ALTHAEA ROSEA.

Hollyhock.

From Hunchun, Manchuria. "(No. 441a, Sept. 8, 1906.) A large-flowered hollyhock of dark purple color; grown as an ornamental plant in Chinese gardens." (Meyer.)

## 20167. SCABIOSA CAUCASICA.

From northern Korea. "(No. 442a, Sept. 2, 1906.) An ornamental *Scabiosa* with large, deep blue flowers." (Meyer.)

## 20168. ASTER sp.

Aster.

From near Musan, northern Korea. "(No. 443a, Aug. 29, 1906.) A herbaceous, perennial composite growing 2 or 3 feet high; has but few stalks and bears many flowers with yellow centers and dark blue rays." (Meyer.)

## 20169. (Undetermined.)

From the mountains of northern Korea. "(No. 444a, Aug. 11, 1906.) A composite bearing large flowers having a yellow center and blue rays; bears but a few flowers to each stalk. Grows from a few inches to 1 foot tall." (Meyer.)



## 20001 to 20229—Continued.

20170. *CALLISTEPHUS HORTENSIS*.

From the mountains of northern Korea. "(No. 445a, Sept. 3, 1906.) Seed of the wild form of our garden aster, found growing in great profusion in the mountains of northeast Korea. A beautiful plant that might be naturalized in the United States, especially in the Rocky Mountain regions." (*Meyer.*)

20171. *DIANTHUS CHINENSIS*.

From the mountains of northern Korea. "(No. 446a, Sept. 3, 1906.) A beautiful scarlet pink." (*Meyer.*)

20172. *TARAXACUM* sp.

From North Tomb, Mukden, Manchuria. "(No. 447a, May 28, 1906.) A white-flowering dandelion." (*Meyer.*)

20173. *VIOLA* sp.

Violet.

From the mountains of northern Korea. "(No. 448a, Aug. 15, 1906.) A violet having small leaves which exactly resemble the *Cyclamen*." (*Meyer.*)

20174. *AQUILEGIA* sp.

Columbine.

From the forest of Bo-tau-shan, northern Korea. "(No. 449a, Aug. 25, 1906.) A columbine with yellow-brown flowers." (*Meyer.*)

20175. *SEDUM* sp.

From Ai-djou, northern Korea. "(No. 450a, July 17, 1906.) A low-growing, yellow-flowering *Sedum* well adapted for rockeries; grows very compactly and covers large expanses; seems to prefer rocky or sandy situations." (*Meyer.*)

20176. *LYCHNIS* sp.

From the mountains of northern Korea. "(No. 451a, Aug. 22, 1906.) A *Lychnis* with rather large, bright scarlet flowers but of somewhat weedy growth. If it can be improved it will be a good garden plant." (*Meyer.*)

20177. *ASTILBE* sp.

From the mountains of northern Korea. "(No. 452a, July 19, 1906.) A rather tall growing *Astilbe* with large, bluish colored spikes; found growing in moist localities on peaty soil." (*Meyer.*)

20178. *ACTAEA* sp.

From the mountains of northern Korea. "(No. 453a, Aug. 23, 1906.) A plant with large bipinnate leaves and bearing spikes with berries of a striking red color; found growing in a dense forest." (*Meyer.*)

20179. *GLYCYRRHIZA* sp.

From near Liaoyang, Manchuria. "(No. 454a, June 1, 1906.) A rather handsome wild plant which is green when other vegetation has just commenced to grow. This plant grows in the driest of situations; is not eaten by animals and may be poisonous." (*Meyer.*)

20180. *LYCIUM* sp.

From Hoi-ryong, northern Korea. "(No. 455a, Sept. 3, 1906.) A wild matrimony vine with rather large scarlet berries; in the wild state the branches grow 3 to 5 feet long." (*Meyer.*)

20181. *CLEMATIS* sp.

Clematis.

From the mountains of northern Korea. "(No. 456a, Aug. 28, 1906.) A large-growing *clematis* with white flowers; not highly ornamental, as the panicles with flowers are not dense enough and the individual flowers do not all blossom at the same time." (*Meyer.*)



## 20001 to 20229—Continued.

20182. *ADLUMIA* sp.

From the mountains of northern Korea. "(No. 457a, Aug. 23, 1906.) An ornamental, perennial climber with graceful foliage and bearing many racemes of drooping rosy flowers." (*Meyer*.)

20183. *RICINUS COMMUNIS*.

Castor-oil plant.

From northern Korea. "(No. 458a, Aug. 5, 1906.) A cultivated variety of the spineless castor bean found growing among plants of the spiny variety." (*Meyer*.)

## 20184. (Undetermined.)

From Tchien-shan Mountains, Manchuria. "(No. 459a, June 7, 1906.) An umbelliferous plant, the rhizome of which is used for medicinal purposes by the Chinese. This plant was found growing on dry, shady spots in decomposed rock." (*Meyer*.)

20185. *IRIS* sp.

Iris.

From northern Korea. "(No. 460a, Aug. 29, 1906.) An early flowering iris of northern China, Manchuria, and northern Korea growing on very dry ground; flowers pale blue." (*Meyer*.)

20186. *IRIS* sp.

Iris.

From the mountains of northern Korea. "(No. 461a, Aug. 24, 1906.) An iris found growing in a wet meadow. This is a very rare plant and may be an ornamental." (*Meyer*.)

20187. *HEMEROCALLIS* sp.

From the mountains of northern Korea. "(No. 462a, Aug. 25, 1907.) An ornamental garden plant bearing large, sulphur-yellow flowers which open at sunset; the flowers have a pleasant odor." (*Meyer*.)

20188. *HEMEROCALLIS* sp.

From the mountains of northern Korea. "(No. 463a.) An ornamental garden perennial growing in high altitudes." (*Meyer*.)

20189. *PARDANTHUS* sp.

From the mountains of northern Korea. "(No. 464a, Aug. 28, 1906.) An ornamental garden perennial." (*Meyer*.)

20190. *PARIS* sp.

From the primeval forest of Bo-tau-shan, northern Korea. (No. 465a, Aug. 23, 1906.)

20191. *CONVALLARIA* sp.

From A-teuk-ryong, northern Korea. "(No. 466a, Aug. 10, 1906.) Plant bears red berries on stalks which resemble *C. polygonatum*." (*Meyer*.)

## 20192. (Undetermined.)

From the mountains of northern Korea. "(No. 467, Aug. 13, 1906.) A rather ornamental, broad-leaved liliaceous plant growing at high elevations in the dense forest and bearing a spike with blue berries." (*Meyer*.)

## 20193. (Undetermined.)

From the primeval forest of Bo-tau-shan, northern Korea. "(No. 468a, Aug. 25, 1906.) Probably the same as No. 467a (S. P. I. No. 20192), but from a different locality." (*Meyer*.)

## 20194. (Undetermined.)

From the primeval forest of Bo-tau-shan, northern Korea. "(No. 469a, Aug. 25, 1906.) The same as Nos. 467a and 468a (S. P. I., Nos. 20192 and 20193), but bearing black berries." (*Meyer*.)

## 20001 to 20229—Continued.

## 20195. RUBUS sp.

## Blackberry.

From the mountains of northern Korea. "(No. 357a, Aug. 1906.) A red blackberry of crawling habit, producing large panicles with many red berries. The taste is somewhat flat, however, and the seeds too conspicuous when eating them. May be improved, though, and become a good garden fruit. When grown in a somewhat shady place the fruits become much juicier. The underside of the leaves is tomentose and white." (Meyer.)

## 20196. RUBUS sp.

## Blackberry.

From the mountains of northern Korea. "(No. 358a, July 25, 1906.) A red blackberry of erect habit, producing an abundance of small panicles with fruit. Has a good taste, though somewhat flat, but when eaten in quantity is quite acceptable. May be improved and become a garden fruit. Is closely related to the raspberry. The underside of the leaves is green. When grown in a shady place the leaves and fruits attain a larger size than when grown in the sun. Should be grown in good sandy or peaty soil." (Meyer.)

## 20197. ACTINIDIA KOLOMIKTA.

From the mountains of northern Korea. "(No. 359a, Aug., 1906.) A climbing Actinidia growing very large and producing green berries ranging in size from a gooseberry to a plum and tasting like the former. The plants are usually scant bearers and do not warrant the space given to them when grown for fruit, but may be used as an ornamental vine, the silver and red leaves being quite beautiful." (Meyer.)

## 20198. RIBES RUBRUM.

## Currant.

From A-teuk-ryong, northern Korea. "(No. 361a, Aug. 10, 1906.) A wild red currant found growing in the mountains. The berries are of a large size but very sour. The shrubs are more vigorous than those seen in cultivation." (Meyer.)

## 20199. RIBES RUBRUM.

## Currant.

From the mountains of northern Korea. "(No. 362a, Aug. 14, 1906.) A form of the wild currant with erect racemes; the berries are tasteless; leaves very large, and the whole shrub is of larger dimensions than those seen in cultivation." (Meyer.)

## 20200. RIBES RUBRUM.

## Currant.

From the mountains of northern Korea. "(No. 363a, Aug. 6, 1906.) A different form of the wild currant from that commonly seen. It is very shrubby and produces fruits which are not sour but rather dry." (Meyer.)

## 20201. RIBES PROCUMBENS.

## Currant.

From the forest of Bo-tau-shan, northern Korea. "(No. 364a, Aug. 25, 1906.) A species of Ribes growing from 3 to 5 inches high in shady, moist places in the forest. The berries are the same size as the taller varieties but the leaves are somewhat smaller." (Meyer.)

## 20202. RIBES ALPINUM.

From A-teuk-ryong, northern Korea. "(No. 365a, Aug. 10, 1906.) A small currant which might be grown in shady places as a garden shrub." (Meyer.)

## 20203. RIBES ALPINUM.

From the forest of Bo-tau-shan, northern Korea. "(No. 366a, Aug. 26, 1906.) An ornamental currant with small, red, elongated berries." (Meyer.)

## 20204. RIBES sp.

From the mountains of northern Korea. "(No. 367a, Aug. 6, 1906.) A small, shrubby bush bearing yellow, inedible berries." (Meyer.)

## 20001 to 20229—Continued.

20205. *POA PRATENSIS*.

Kentucky bluegrass.

From the mountains of northern Korea. "(No. 476a, Aug. 15, 1906.) A wild meadow grass which forms a dense turf. This grass is rarely seen and it may be a good lawn and pasturing grass." (*Meyer*.)

20206. *ELYMUS SIBIRICUS*.

From the mountains of northern Korea. "(No. 477a, Aug. 11, 1906.) A tall wild grass with drooping heads growing in sandy and stony places; may be sand binding." (*Meyer*.)

20207. *AGROPYRON* sp.

From the mountains of northern Korea. "(No. 478a, Aug. 14, 1906.) A medium tall wild grass with drooping heads and scanty foliage, growing in stony places." (*Meyer*.)

20208. *ERAGROSTIS* sp.

From the mountains of northern Korea. "(No. 479a, Aug. 14, 1906.) A very delicate plumed grass growing along trails and in cleared places through the forests." (*Meyer*.)

20209. *POA TRIVIALIS*.

Rough-stalked meadow grass.

From the mountains of northern Korea. "(No. 480a, Aug. 22, 1906.) A grass with clean, round stems found growing at high altitudes (3,000 to 4,000 feet) in dense bunches on somewhat sandy soil." (*Meyer*.)

20210. *PHALARIS ARUNDINACEA*.

Reed canary grass.

From the mountains of northern Korea. "(No. 481a, Aug. 14, 1906.) A tall, rough grass growing at high elevations on moist, peaty soil. Is a good fodder for horses and cattle." (*Meyer*.)

20211. *ARUNDINELLA ANOMALA*.

From the mountains of northern Korea. "(No. 482a, Aug. 28, 1906.) A tall, rough grass growing on high, dry soil. May be a fodder grass." (*Meyer*.)

20212. *POA* sp.

From the mountains of northern Korea. "(No. 483a, Aug. 14, 1906.) A grass of dense habits found growing in high altitudes. May be of use as a lawn and pasture grass." (*Meyer*.)

20213. *CALAMAGROSTIS* sp.

From the mountains of northern Korea. "(No. 484a, Aug. 14, 1906.) A tall, rough grass covering enormous areas where the forest has been burned; prefers a moist, peaty soil. Grows from 3 to 5 feet tall and is a very good fodder grass." (*Meyer*.)

20214. *BECKMANNIA ERUCIFORMIS*.

From near Antung, northern Korea. "(No. 485a, July 11, 1906.) A grass found growing on wet, muddy flats along the Yalu River; may be a fodder grass." (*Meyer*.)

20215. *AGROPYRON* sp.

From northern Korea. "(No. 486a, June 28, 1906.) A rough, blue-grass growing along shady roads; may be of use as a sand binder." (*Meyer*.)

20216. *MISCANTHUS JAPONICUS*.

From the mountains of northern Korea. "(No. 487a, Aug. 20, 1906.) A tall, rough grass with ornamental white plumes; used locally for fodder." (*Meyer*.)

## 20001 to 20229—Continued.

## 20217. SACCHARUM ARUNDINACEUM.

From near Hunchun, Manchuria. (No. 488a, Sept. 9, 1906.)

## 20218. PHALARIS ARUNDINACEA.

Reed canary grass.

From A-teuk-ryong, northern Korea. "(No. 489a, Aug. 10, 1906.) A rough grass growing in the primeval forest; of use as a fodder grass." (*Meyer.*)

## 20219. ERIOCHLOA VILLOSA.

From the mountains of northern Korea. "(No. 490a, Aug. 20, 1906.) A grass of peculiar growth growing in a dry, sandy situation." (*Meyer.*)

## 20220. ERIOCHLOA VILLOSA.

From northern Korea. "(No. 491a, Sept. 6, 1906.) The same as No. 490a (S. P. I. No. 20219), but of a more vigorous growth." (*Meyer.*)

## 20221. CHLORIS sp.

From northern Korea. "(No. 492a, Sept. 3, 1906.) A grass growing on very dry, elevated plains and along roads in but one locality; probably not very valuable." (*Meyer.*)

## 20222. MELICA sp.

From Liaoyang, Manchuria. "(No. 493a, June 21, 1906.) A graceful grass growing on the dry, exposed city wall of Liaoyang; may be of use in the very dry regions of the United States." (*Meyer.*)

## 20223. AGROPYRON SIBIRICUM (?).

From Liaoyang, Manchuria. "(No. 494a, June 21, 1906.) A coarse grass growing on the dry, exposed city wall of Liaoyang." (*Meyer.*)

## 20224. POA TRIVIALIS.

Rough-stalked meadow grass.

From Liaoyang, Manchuria. "(No. 495a, June 21, 1906.) A grass of good habit growing on the dry, exposed city wall of Liaoyang." (*Meyer.*)

## 20225. CAREX sp.

Sedge.

From the mountains of northern Korea. "(No. 496a, Aug. 22, 1906.) A round-stemmed Carex growing on dry, high grounds. May be of use as a fodder plant." (*Meyer.*)

## 20226. CAREX sp.

Sedge.

From the mountains of northern Korea. "(No. 497a, Aug. 22, 1906.) Probably identical with No. 496a (S. P. I. No. 20225)." (*Meyer.*)

## 20227. CAREX sp.

Sedge.

From the mountains of northern Korea. "(No. 498a, Aug. 27, 1906.) A Carex grown in fields used as pasturing grounds for bulls and horses, which seem to like this sedge. Grows on somewhat moist, peaty soil. Of use as a fodder plant on moist lands in the Northern States." (*Meyer.*)

## 20228. SCIRPUS ERIOPHORUM.

From the mountains of northern Korea. "(No. 499a, Sept. 6, 1906.) A tall, rough Scirpus found on very dry ground; probably a good fodder plant." (*Meyer.*)

## 20229. SCIRPUS ERIOPHORUM.

From near Novo Kiowsk, Siberia. "(No. 500a, Sept. 9, 1906.) Identical with No. 499a (S. P. I. No. 20228), but found growing in a moist locality." (*Meyer.*)

## 20230 to 20288.

From Manchuria. Received through Mr. F. N. Meyer, agricultural explorer, March 12, 1907.

Cuttings of fruit trees, ornamentals, etc., as follows:

20230. *MALUS* sp. Apple.

From Kwang-cheng-tze. "(No. 575.) Chinese name *Sha ho tze*. A red apple with white cheeks." (*Meyer*.)

20231. *MALUS* sp. Siberian crab apple.

From Kwang-cheng-tze. "(No. 576.) Cuttings of the original Siberian crab apple growing at Kwang-cheng-tze and used for grafting stock for the better varieties." (*Meyer*.)

20232. *PYRUS SINENSIS*. Pear.

From Kwang-cheng-tze. "(No. 577.) The fragrant water pear, or *Hsiang suy li*, used dried and fresh in Manchuria." (*Meyer*.)

20233. *PYRUS SINENSIS*. Pear.

From Kwang-cheng-tze. "(No. 578.) Chinese name *Ya li*. A large pear, one of the best of north China." (*Meyer*.)

20234. *PYRUS SINENSIS*. Pear.

From Kwang-cheng-tze. "(No. 579.) The same as No. 578 (S. P. I. No. 20233), but said to be a somewhat different form." (*Meyer*.)

20235. *PYRUS SINENSIS*. Pear.

From Kwang-cheng-tze. "(No. 580.) Chinese name *Bay li*. A pear with rather hard, whitish yellow fruits." (*Meyer*.)

20236. *SALIX* sp. Willow.

From near Kwang-cheng-tze. "(No. 581.) A semiweeping willow with a straight stem and graceful, drooping branches hanging from its crown." (*Meyer*.)

20237. *MALUS* sp. Crab apple.

From San-tau-lin-tze. "(No. 582.) A tall-growing form of the wild crab apple." (*Meyer*.)

20238. *MALUS* sp. Crab apple.

From San-tau-lin-tze. "(No. 583.) A very shrubby form of the wild crab apple." (*Meyer*.)

20239. *AMYGDALUS PERSICA*. Peach.

From Kirin. "(No. 584.) A pale colored, medium-sized peach. Kirin is the most northern locality where I have as yet found peaches." (*Meyer*.)

20240. *PRUNUS* sp. Cherry.

From Kirin. "(No. 585.) A large-fruited bush cherry. Chinese name *Ta ying taor*." (*Meyer*.)

20241. *PRUNUS* sp. Plum.

From Kirin. "(No. 586.) A medium-sized, red-fruited sweet plum." (*Meyer*.)

20242. *SALIX* sp. Willow.

From near Yi-ma-tchau. "(No. 588.) A willow with opposite leaves." (*Meyer*.)

20243. *PYRUS SINENSIS*. Pear.

From Tieling. "(No. 589.) A wild pear with drooping branches and edible fruit." (*Meyer*.)



## 20230 to 20288—Continued.

20244. *PYRUS SINENSIS*. Pear.

From Liaoyang. "(No. 590.) A round, medium-sized, soft pear of reddish color. Chinese name *Shuy hong hsiao li*." (Meyer.)

20245. *PYRUS SINENSIS*. Pear.

From Liaoyang. "(No. 591.) The famous fragrant-water pear or *Hsiang suy li*; used by the Chinese both dried and fresh." (Meyer.)

20246. *PYRUS SINENSIS*. Pear.

From Liaoyang. "(No. 592.) A medium-sized, soft pear, called *Ping li*." (Meyer.)

20247. *PYRUS SINENSIS*. Pear.

From Liaoyang. "(No. 593.) A very large-fruited pear of yellow color and with juicy, somewhat hard flesh. A little coarse, but may be excellent for canning purposes." (Meyer.)

20248. *PYRUS SINENSIS*. Pear.

From Liaoyang. "(No. 594.) A soft pear, called *Moa pan suan li*." (Meyer.)

20249. *CAREX* sp. Sedge.

From San-tau-lin-tze. "(No. 599.) A very nice sedge. May be valuable for lawn and fodder purposes in dry, cold regions." (Meyer.)

20250. *CAREX* sp. Sedge.

From near San-tau-lin-tze. "(No. 600.) A semicoarse sedge." (Meyer.)

20251 to 20267. *PYRUS SINENSIS*. Pear.

A collection of pear cuttings from Manchuria. With each number the Chinese varietal name is given. From Kwang-ning. (Nos. 601 to 617.)

20251.

*Ma ti huang li*. (No. 601.)

20252.

*Chin tse li*. (No. 602.)

20253.

*Hsiang suy li*. (No. 603.)

20254.

*Ping ding li*. (No. 604.)

20255.

*Ta ma li*. (No. 605.)

20256.

*Ya li*. One of the best pears of north China. (No. 606.)

20257.

*Hung li*. (No. 607.)

20258.

*Chin pai li*. (No. 608.)

20259.

*Yuan po li*. (No. 609.)

20260.

*Mien swan li*. (No. 610.)

20261.

*Mien kuan li*. (No. 611.)

20262.

*An li*. (No. 612.)

20263.

*Kuan hung hsiao li*. Seems to be a very rare variety; used only as presents to the Emperor. (No. 613.)

20264.

*Chang poa li*. (No. 614.)

20265.

*Yu chiu li*. (No. 615.)

20266

*Ta li*. (No. 616.)

20267.

*Shan li hung*. A wild mountain pear used as grafting stock. (No. 617.)



## 20230 to 20288—Continued.

20268. CRATAEGUS PINNATIFIDA.

Hawthorn.

From Kwang-ning. "(No. 618.) A large-fruited hawthorn called *Tsuan dsao*." (Meyer.)

20269 to 20275. PYRUS SINENSIS.

Pear.

From Kwang-ning. (Nos. 619 to 625.)

20269.

*Ne o tau li*. (No. 619.)

20270.

*Ta yang li*. (No. 620.)

20271.

*Huang hsiang sui li*.  
(No. 621.)

20272.

*Tang li*. (No. 622.)

20276 to 20280. MALUS sp.

Apple.

From Kwang-ning. (Nos. 626 to 630.)

20277.

*Pin tsu*. (No. 627.)

20278.

*Hua hong chintze*. A  
pretty flowering tree or  
shrub. (No. 628.)

20273.

*Ghua kai li*. (No. 623.)

20274.

*Lin yuen li*. (No. 624.)

20275.

*Nai tsu hsiang li*. (No. 625.)

20279.

*Hua hong*. A pretty flower-  
ing tree or shrub, a little differ-  
ent from the preceding. (No.  
629.)

20280.

*Ping kua*. (No. 630.)

20281. PRUNUS sp.

Plum.

From Kwang-ning. (No. 631.)

20282. AMYGDALUS PERSICA LAEVIS.

Nectarine.

From Kwang-ning. (No. 634.)

*Li tsu*.

20283 to 20286. AMYGDALUS PERSICA.

Peach.

From Kwang-ning. (Nos. 640 to 643.)

*Ta hsing mei*.

20283.

*Ta chieh tau*. (No.  
640.)

20284.

*Pai tau*. (No. 641.)

20285.

*Hung tau*. (No. 642.)

20286.

*Mao tau*. (No. 643.)

20287 and 20288. PRUNUS sp.

Cherry.

From Kwang-ning. (Nos. 644 and 645.)

20287.

*Ta ying tao*. (No. 644.)

20288.

*Moa ying tao*. (No. 645.)

## 20289 to 20424.

From Siberia. Received through Mr. Frank N. Meyer, agricultural explorer, February 28, 1907.

A collection of seeds, as follows:

20289. JUGLANS MANDSHURICA.

Manchuria walnut.

From between Vladivostok and Spask. "(No. 515a, Oct. 19, 1906.) Collected from different trees in eastern Siberia. These are worthless from a utilitarian point of view, but the trees are quite ornamental and reach large sizes." (Meyer.)

## 20289 to 20424—Continued.

20290. *TILIA CORDATA* (?). Linden.

From Khabarovsk. "(No. 516a, Nov. 10 and 12, 1906.) A small-leaved linden growing wild in the neighborhood of Khabarovsk; is used in the city as an avenue tree; also in the parks and gardens. Seems to be a most profuse bloomer; height, 12 to 20 feet." (*Meyer.*)

20291. *TILIA CORDATA* (?). Linden.

From the mountains near Czernigowka. "(No. 517a, Oct. 22, 1906.) A small-leaved linden used locally for making wooden pumps and small water troughs. Apparently the same as No. 516a (S. P. I. No. 20290)." (*Meyer.*)

20292. *TILIA MANDSHURICA* (?). Linden.

From the mountains near Merkoechofka. "(No. 518a, Oct. 20, 1906.) A very large-leaved linden found growing in the forests; is used locally to make water troughs, barrels, and beehives. May be used in the colder parts of the United States as an ornamental park and shade tree." (*Meyer.*)

20293. *TILIA MANDSHURICA*. Linden.

From Khabarovsk. "(No. 519a, Nov. 7, 1906). Received from the forester of the Imperial Domains. This is said to be an ornamental forest tree." (*Meyer.*)

20294. *ACER GINNALA*. Japan maple.

From between Vladivostok and Iman. "(No. 520a, Oct., 1906.) The same as No. 424a (S. P. I. No. 20149)." (*Meyer.*)

20295. *ACER PALMATUM*. Maple.

From near Vladivostok. "(No. 521a, Oct. 6, 1906.) A medium-sized maple, the leaves of which assume a beautiful fiery-red color in the fall." (*Meyer.*)

20296. *ACER* sp. Maple.

From Saponsky. "(No. 522a, Oct. 19, 1906.) A bushy maple producing many stems, with a beautiful red-colored bark. Seed obtained from the forester of the government nursery at Saponsky." (*Meyer.*)

20297. *ACER* sp. Maple.

From the mountains near Merkoechofka. "(No. 523a, Oct. 25, 1906.) A bushy, red-stemmed maple, the same as No. 522a (S. P. I. No. 20296), but obtained from another source." (*Meyer.*)

20298. *ACER MONO* (?). Maple.

From Saponsky. "(No. 524a, Oct. 19, 1906.) A small or medium sized maple bearing a great profusion of small, five-pointed leaves, which assume a golden yellow color in the fall. Obtained from the forester of the government nursery at Saponsky." (*Meyer.*)

20299. *ACER TEGMENTOSUM* (?). Maple.

From Saponsky. "(No. 525a, Oct. 19, 1906.) A broad-leaved maple growing to be a small tree or large shrub. Obtained from the forester of the government nursery at Saponsky." (*Meyer.*)

20300. *ACER TEGMENTOSUM*. Maple.

From Khabarovsk. "(No. 526a, Nov. 7, 1906.) For description see No. 525a (S. P. I. No. 20299). Seed obtained from the forester of the Imperial Domains." (*Meyer.*)

20301. *ACER* sp. Maple.

From Khabarovsk. "(No. 527a, Nov. 7, 1906.) A small-sized maple of use as an ornamental bush in large shrubberies in parks. Obtained from the forester of the Imperial Domains." (*Meyer.*)

## 20289 to 20424—Continued.

30302. *CORYLUS AVELLANA*.

Hazelnut.

From Khabarovsk. "(No. 528a, Nov. 15, 1906.) Nuts purchased at a Chinese fruit stand in Khabarovsk; said to have come from Siberia." (Meyer.)

20303. *CORYLUS ROSTRATA*.

Hazelnut.

From Merkoechofka. "(No. 529a, Oct. 25, 1906.) A hazelnut growing on the edges of the forests, often covering very large expanses and forming dense thickets." (Meyer.)

20304. *CORYLUS ROSTRATA*.

Hazelnut.

From Khabarovsk. "(No. 530a, Nov. 15, 1906.) Purchased at a Chinese fruit stand in Khabarovsk; said to have come from the country along the Sungari." (Meyer.)

20305. *CORYLUS ROSTRATA*.

Hazelnut.

From Khabarovsk. "(No. 531a, Nov. 7, 1906.) Obtained from the forester of the Imperial Domains. For other remarks, see No. 520a (S. P. I. No. 20303)." (Meyer.)

20306. *QUERCUS MONGOLICA*.

Oak.

From between Vladivostok and Iman. "(No. 532a, Oct., 1906.) A rather large leaved oak found growing all over the country. May thrive in the coldest parts of the United States." (Meyer.)

20307. *QUERCUS MONGOLICA*.

Oak.

From Khabarovsk. "(No. 533a, Nov. 7, 1906.) Obtained from the forester of the Imperial Domains. For further description see No. 532a (S. P. I. No. 20306)." (Meyer.)

20308. *ACANTHOPANAX SESSILIFLORUM*.

From between Vladivostok and Spask. "(No. 534, Oct., 1906.) An ornamental, hardy shrub. For further description see Nos. 547 to 550 (S. P. I. No. 19476)." (Meyer.)

20309. *ELEUTHEROCOCCUS SENTICOSUS*.

From near Vladivostok and Merkoechofka. "(No. 535a, Oct., 1906.) A very spiny shrub, bearing palmate divided leaves and having at the end of its long shoots small umbels of black berries; grows generally in dense shade. May be of use as an undergrowth beneath tall trees." (Meyer.)

20310. *ARALIA MANDSHURICA*.

Chinese angelica tree.

From the forest near Merkoechofka. "(No. 536a, Oct. 25, 1906.) A robust-growing Aralia, with very large leaves and bearing big umbels of whitish flowers." (Meyer.)

20311. *ARALIA MANDSHURICA*.

Chinese angelica tree.

From Khabarovsk. "(No. 537a, Nov. 7, 1906.) Obtained from the forester of the Imperial Domains. For further remarks see No. 536a (S. P. I. No. 20310)." (Meyer.)

20312. *ACANTHOPANAX RICINIFOLIUM*.

From the forest near Merkoechofka. "(No. 538a, Oct. 25, 1906.) A beautiful tree of striking appearance, having large, palmately lobed leaves and flowers in white umbels. A tree in full flower makes a striking impression, growing to be about 50 feet tall." (Meyer.)

20313. *PICEA* sp.

Spruce.

From the forest near Bo-tau-shan, northern Korea. (No. 539a, Aug. 24, 1906.)

## 20289 to 20424—Continued.

20314. *PICEA* sp. Spruce.

From the primeval forests of Bo-tau-shan, northern Korea. "(No. 540a, Aug. 24, 1906.) A tall, large spruce." (*Meyer.*)

20315. *PINUS KORAIENSIS*. Pine.

From Khabarovsk and Corvuskaya. "(Nos. 542a and 682a.) No. 542a was purchased at a Chinese fruit stand in the market at Khabarovsk, while No. 682a was obtained from collectors at Corvuskaya, where there are large forests of these pines." (*Meyer.*)

20316. *PINUS KORAIENSIS*. Pine.

From Khabarovsk. "(No. 543a, Nov. 7, 1906.) Obtained from the forester of the Imperial Domains." (*Meyer.*)

20317. *PINUS CEMBRA*. Pine.

From Khabarovsk. "(No. 544a, Nov. 15, 1906.) Edible pine seeds, said to have come from the forests of eastern Siberia; purchased at a Chinese fruit stand in the market at Khabarovsk." (*Meyer.*)

20318. *PICEA AJANENSIS*. Spruce.

From Khabarovsk. "(No. 545a, Nov. 7, 1906.) Obtained from the forester of the Imperial Domains." (*Meyer.*)

20319. *PICEA OBOVATA*. Spruce.

From Khabarovsk. "(No. 546a, Nov. 7, 1906.) Obtained from the forester of the Imperial Domains." (*Meyer.*)

20320. *ABIES SIBIRICA*. Fir.

From Khabarovsk. "(No. 547a, Nov. 7, 1906.) Obtained from the forester of the Imperial Domains." (*Meyer.*)

20321. *LARIX DAHURICA*. Larch.

From Khabarovsk. "(No. 548a, Nov. 7, 1907.) Obtained from the forester of the Imperial Domains." (*Meyer.*)

20322. *CLADRASTIS AMURENSIS*.

From between Vladivostok and Iman. "(No. 549a, Oct., 1906.) A hardy, ornamental tree; seen often also as a shrub. Has beautiful hard wood, which is very durable and which can be used for many purposes, such as making furniture, bridge rafters, fence posts, etc. This tree is a slow grower." (*Meyer.*)

20323. *CLADRASTIS AMURENSIS*.

From Khabarovsk. "(No. 550a, Nov. 14, 1906.) The same as No. 549a (S. P. I. No. 20322), but may be hardier" (*Meyer.*)

20324. *SYRINGA AMURENSIS*. Amur lilac.

From Nikolsk. "(No. 552a, Oct. 18, 1906.) The beautiful Amur lilac, a vigorous-growing shrub, able to withstand great droughts and cold; having large, glossy, dark green leaves, and bearing large panicles of white flowers." (*Meyer.*)

20325. *FRAXINUS MANDSHURICA*. Ash.

From Khabarovsk. "(Nos. 553a and 554a, Nov. 12, 1906.) A tall-growing ash with rather large leaves; able to withstand much drought and cold. Obtained from the forester of the Imperial Domains." (*Meyer.*)

20326. *PHELLODENDRON AMURENSE*. Chinese cork tree.

From Sedansk. "(No. 555a, Oct. 6, 1906.) The Manchurian cork tree or, in Russian, *Barchat*. The wood is quite durable and takes on a beautiful polish; the berries contain a fragrant oil." (*Meyer.*)

## 20289 to 20424—Continued.

20327. *PHELLODENDRON AMURENSE*.

Chinese cork tree.

From Khabarovsk. "(Nos. 556a and 668a, Nov. 7, 1906, and Apr. 11, 1907.) Obtained from the forester of the Imperial Domains. Coming from a more northern locality these seeds may produce hardier trees than those sent under No. 555a (S. P. I. No. 20326)." (*Meyer*.)

20328. *CRATAEGUS SANGUINEA*.

Hawthorn.

From the mountains near Okiansk. "(No. 557a, Oct. 9, 1906.) A very hardy hawthorn growing all over eastern Siberia. Seeds also collected in northern Korea and sent under No. 380a (S. P. I. No. 20105)." (*Meyer*.)

20329. *BERBERIS AMURENSIS*.

Barberry.

From Khabarovsk. "(No. 558a, Nov. 7, 1906.) Obtained from the forester of the Imperial Domains." (*Meyer*.)

20330. *BERBERIS* sp.

Barberry.

From near Vladivostok. "(No. 559a, Oct. 5, 1906.) A shrub with large, light green leaves and large racemes of scarlet berries." (*Meyer*.) (See also S. P. I. Nos. 20111 and 20112.)

20331. *LONICERA* sp.

Honeysuckle.

From near Merkoechofka. "(No. 560a, Oct. 23, 1906.) A tall bush bearing red berries, growing in semishady places." (*Meyer*.)

20332. *PHILADELPHUS* sp.

Mock orange.

From the mountains near Merkoechofka. "(No. 561a, Oct. 24, 1906.) A mock orange growing to be a very tall bush. Judging by the many fruit capsules on a bush, it must be a fine bush when in full bloom." (*Meyer*.)

20333. *EUONYMUS THUNBERGIANUS*.

From near Vladivostok. "(No. 562a, Oct. 6, 1906.) A low, bushy *Euonymus* having large, corky wings on its branches. When loaded with its numerous scarlet berries it is really quite ornamental." (*Meyer*.)

20334. *EUONYMUS* sp.

From near Vladivostok. "(No. 563a, Oct. 6, 1906.) A tall, bushy *Euonymus* with large, dark green leaves and bearing big red capsules." (*Meyer*.)

20335. *LESPEDEZA* sp.

From the mountains near Czernigowka. "(No. 564a, Oct. 21 and 22 1906.) A tall, shrubby *Lepedeza* bearing slender racemes or rosy flowers. Seems to be a good plant for rather dry situations." (*Meyer*.)

20336. *PYRUS SINENSIS*.

Pear.

From Saponsky. "(No. 565a, Oct. 19, 1906.) *Pyrus ussuriensis*. The wild pear found growing all over eastern Siberia; produces worthless fruit, but may, on account of its hardiness, be utilized as a stock plant for better varieties, and also be used for hybridizing so as to extend the belt of pear culture farther north. Obtained from the forester of the government nursery at Saponsky." (*Meyer*.)

20337. *PYRUS SINENSIS*.

Pear.

From Khabarovsk. "(No. 566a, Nov. 7, 1906.) *Pyrus ussuriensis*. Obtained from the forester of the Imperial Domains at Khabarovsk. For description see preceding number." (*Meyer*.)

20338. *PYRUS SINENSIS*.

Pear.

From Vladivostok. "(No. 567a, Oct. 6, 1906.) Seed of a large, juicy, brown pear said to have come from Japan." (*Meyer*.)



## 20289 to 20424—Continued.

20339. *MALUS BACCATA*.

Siberian crab apple.

From near Okiansk. "(No. 568a, Oct. 9, 1906.) The ordinary type of *Malus baccata*, seen all over eastern Siberia, northern Korea, and Manchuria. Is worthless from a fruiting point of view, but may be very valuable as a stock for apples in the northern regions; also in hybridizing with large-fruited varieties it may be possible to produce a perfectly hardy apple far north. At the present, as an ornamental early-flowering shrub or tree it has most value." (*Meyer.*)

20340. *MALUS BACCATA*.

Siberian crab apple.

From near Saponsky. "(No. 569a, Oct. 19, 1906.) Obtained from the forester of the government nursery at Saponsky. See also 568a (S. P. I. No. 20339)." (*Meyer.*)

20341. *MALUS BACCATA*.

Siberian crab apple.

From Khabarovsk. "(No. 570a, Nov. 7, 1906.) Obtained from the forester of the Imperial Domains at Khabarovsk. For other remarks see 568a and 569a (S. P. I. Nos. 20339 and 20340)." (*Meyer.*)

20342. *PRUNUS PUMILA*.

Sand cherry.

From Khabarovsk. "(No. 571a, Nov. 7, 1906.) A low bush bearing many scarlet cherries, which are generally inedible. Obtained from the forester of the Imperial Domains. Seeds of this cherry were also collected in Korea under Nos. 353a to 356a (S. P. I. Nos. 20085 to 20088)." (*Meyer.*)

20343. *PRUNUS* sp.

Plum.

From Khabarovsk. "(No. 572a, Nov. 7, 1906.) Obtained from the forester of the Imperial Domains at Khabarovsk. May be of use as a stock plant or for breeding purposes." (*Meyer.*)

20344. *PRUNUS GLANDULIFOLIA*.

Chokecherry.

From Khabarovsk. "(No. 573a, Nov. 7, 1906.) An ornamental chokecherry well adapted for use as a small avenue tree. Seems to be the same as that sent from Korea under No. 348a (S. P. I. No. 20080). Obtained from the forester of the Imperial Domains at Khabarovsk." (*Meyer.*)

20345. *RUBUS* sp.

Blackberry.

From near Vladivostok. "For description see No. 358a. (S. P. I. No. 20196)." (*Meyer.*)

20346. *DIOSPYROS KAKI*.

Persimmon.

From Khabarovsk. "(No. 575a, Nov. 14, 1906.) Seeds of a persimmon sold in Khabarovsk by Chinese fruit peddlers, coming from Chefoo, China." (*Meyer.*)

20347. *VITIS AMURENSIS*.

Grape.

From Khabarovsk. "(No. 567a, Nov. 7, 1906.) Obtained from the forester of the Imperial Domains at Khabarovsk. For other remarks see Nos. 551 and 552 (S. P. I. No. 19477) and 564 and 565 (S. P. I. No. 19600)." (*Meyer.*)

20348. *VITIS AMURENSIS*.

Grape.

From between Vladivostok and Spask. "(No. 577a, Oct., 1906.) Seed of wild grapes collected at different points in eastern Siberia. See No. 567a (S. P. I. No. 20347)." (*Meyer.*)

20349. *VITIS AMURENSIS*.

Grape.

From the mountains near Czernigowka. "(No. 578a, Oct. 23, 1906.) A very large leaved variety. For description see Nos. 564 and 565 (S. P. I. No. 19600)." (*Meyer.*)



## 20289 to 20424—Continued.

## 20350. CRATAEGUS PINNATIFIDA.

Hawthorn.

From near Czernigowka. "(No. 579a, Oct. 23, 1906.) For description see No. 384a (S. P. I. No. 20109)." (Meyer.)

## 20351. ROSA sp.

Rose.

From near Okiansk. "(No. 580a, Oct. 9, 1906.) A wild climbing rose." (Meyer.)

## 20352. ROSA sp.

Rose.

From near Vladivostok. "(No. 581a, Oct. 6, 1906.) A wild rose forming a low, dense bush; of use as a shrub for small gardens." (Meyer.)

## 20353. ROSA RUGOSA.

Rose.

From near Okiansk. "(No. 582a, Oct. 9, 1906.) A very low growing variety of the Japanese rose; of use in small gardens as an ornamental shrub." (Meyer.)

## 20354. ROSA sp.

Rose.

From near Czernigowka. "(No. 583a, Oct. 23, 1906.) A wild rose forming low bushes and covering here and there large areas; of use in parks and gardens as a shrub for the borders." (Meyer.)

## 20355. LILIUM sp.

Lily.

From near Vladivostok. "(No. 584a, Oct. 6, 1906.) Seed of a wild lily found growing between shrubs; not seen in flower, but probably has scarlet blossoms." (Meyer.)

## 20356. LILIUM sp.

Lily.

From the mountains near Czernigowka. "(No. 585a, Oct. 21, 1906.) A lily with very narrow leaves; not seen in flower, but probably has pink blossoms." (Meyer.)

## 20357. ASPARAGUS sp.

Asparagus.

From near Sedansk. "(No. 586a, Oct. 8, 1906.) An ornamental asparagus, seeds of which were collected in northern Korea and sent under No. 433a (S. P. I. No. 20158)." (Meyer.)

## 20358. ACTAEA sp.(?).

From the forest near Merkoechofka. "(No. 587a, Oct. 24, 1906.) A perennial bearing blue berries and found growing in dense, shady places." (Meyer.)

## 20359. (Undetermined.)

From Tchien-shan mountains, southern Manchuria. "(No. 588a, June 8, 1906.) A perennial with several short stems, each bearing four dark green, serrated leaves of ovate-lanceolate form. Has long, narrow pods containing many small greenish seeds and is closely related to the Papaveraceæ and Fumariaceæ. It is only to be found in dense, shady places." (Meyer.)

## 20360. ACTINIDIA KOLOMIKTA.

From the mountains near Merkoechofka. "(No. 589a, Oct. 24, 1906.) These fruits are called *Kishmis* by the Russian settlers here and are collected in the fall and can be kept, when dried, through the whole winter. They are used in bread and confectionery by the country people. See also No. 359a (S. P. I. No. 20197)." (Meyer.)

## 20361. SCHIZANDRA CHINENSIS.

From near Vladivostok. "(No. 590a, Oct. 8, 1906.) For description see Nos. 360a, 567, and 568. (S. P. I. No. 19602)." (Meyer.)

## 20289 to 20424—Continued.

20362. CLEMATIS sp..

Clematis.

From Sedansk. "(No. 591a, Oct. 8, 1906.) A climbing Clematis; not seen in flower, but probably has yellow blossoms." (Meyer.)

20363. PANICUM CRUS-GALLI.

Barnyard millet.

From Merkoehofka. "(No. 592a, Oct. 26, 1906.) Chinese name *Bay tze*. This millet prefers a heavy, wet soil; of use as a fodder plant. See also No. 50a (S. P. I. No. 17901)." (Meyer.)

20364. AVENA SATIVA.

Oat.

From Khabarovsk. "(No. 594a, Nov. 8, 1906.) *Black French*. 'Prolifique.' Seed obtained from Mr. V. T. Kovaleff, in charge of the agricultural station at Khabarovsk. These oats were ordered from Russia in 1900 and gave in four years' time the heaviest crop of all oats experimented with up here." (Meyer.)

20365. AVENA SATIVA.

Oat.

From Khabarovsk. "(No. 595a, Nov. 8, 1906.) *Shatilovsky*. Obtained from Mr. V. T. Kovaleff, in charge of the agricultural station at Khabarovsk. These oats were ordered from Russia in 1905 and gave a heavy crop last year." (Meyer.)

20366. AVENA SATIVA.

Oat.

From Khabarovsk. "(No. 596a, Nov. 15, 1906.) *Shatilovsky*. Purchased on the market at Khabarovsk, where these oats are considered the best variety and are dearer than other varieties." (Meyer.)

20367. AVENA SATIVA.

Oat.

From Khabarovsk. "(No. 597a, Nov. 8, 1906.) *Shawannie*. Obtained from Mr. V. T. Kovaleff, in charge of the agricultural station at Khabarovsk. Original seed secured in Russia in 1900; produced rather good crops at Khabarovsk." (Meyer.)

20368. AVENA SATIVA.

Oat.

From Khabarovsk. "(No. 598a, Nov. 8, 1906.) A local variety of oats secured from Mr. V. T. Kovaleff, in charge of the agricultural station. This does not produce as heavy a crop as the improved varieties do." (Meyer.)

20369. AVENA SATIVA.

Oat.

From Khabarovsk. "(No. 599a, Nov. 15, 1906.) Purchased on the market at Khabarovsk. An ordinary variety grown anywhere." (Meyer.)

20370. AVENA SATIVA.

Oat.

From Khabarovsk. "(No. 600a, Nov. 15, 1906.) Red oats purchased on the market at Khabarovsk; considered to be of a medium good quality." (Meyer.)

20371. TRITICUM VULGARE.

Wheat.

From Khabarovsk. "(No. 601a, Nov. 8, 1906.) Summer wheat obtained from Mr. V. T. Kovaleff, in charge of the agricultural station. This wheat has to be sown somewhat early here; otherwise it produces very little." (Meyer.)

20372. TRITICUM VULGARE.

Wheat.

From Khabarovsk. "(No. 602a, Nov. 15, 1906.) Red summer wheat purchased on the market at Khabarovsk; grown locally and in Manchuria." (Meyer.)

## 20289 to 20424—Continued.

## 20373. SECALE CEREALE.

Rye.

From Khabarovsk. "(No. 603a, Nov. 8, 1906.) *Propsteyer*. Winter rye obtained from Mr. V. T. Kovaleff, in charge of the agricultural station. Original seed secured in Russia in 1895. When sown the last week in August it produces in general a satisfactory crop." (*Meyer*.)

## 20374. SECALE CEREALE.

Rye.

From Khabarovsk. "(No. 604a, Nov. 8, 1906.) *Propsteyer*. Summer rye obtained from Mr. V. T. Kovaleff, in charge of the agricultural station. Original seed secured in Russia in 1897; does not produce as heavy a crop as the winter rye." (*Meyer*.)

## 20375. HORDEUM HEXASTICHUM.

Six-row barley.

From Khabarovsk. "(No. 605a, Nov. 6, 1906.) Obtained from Mr. V. T. Kovaleff, in charge of the agricultural station. This barley produces medium heavy crops here." (*Meyer*.)

## 20376. FAGOPYRUM ESCULENTUM.

Buckwheat.

From Khabarovsk. "(Nos. 606a and 674a, Nov. 8, 1906.) A local variety of buckwheat obtained from Mr. V. T. Kovaleff, in charge of the agricultural station. This variety is not a very great success here." (*Meyer*.)

## 20377. HELIANTHUS ANNUUS.

Sunflower.

From Merkoeehofka. "(No. 607a, Oct. 25, 1906.) A local form of sunflower producing many heads." (*Meyer*.)

## 20378. BRASSICA NAPUS.

Rape.

From Khabarovsk. "(No. 609a, Nov. 8, 1906.) Summer rape obtained from Mr. V. T. Kovaleff, in charge of the agricultural station. Original seed secured in Russia in 1902." (*Meyer*.)

## 20379. SINAPIS ALBA.

White mustard.

From Khabarovsk. "(No. 610a, Nov. 8, 1906.) Obtained from Mr. V. T. Kovaleff, in charge of the agricultural station. Original seed secured in Russia in 1902." (*Meyer*.)

## 20380. PISUM SATIVUM.

Pea.

From Khabarovsk. "(No. 611a, Nov. 8, 1906.) Wax peas obtained from Mr. V. T. Kovaleff, in charge of agricultural station. Original seed secured in Russia in 1900; not a very good producer in this country." (*Meyer*.)

## 20381. PISUM SATIVUM.

Pea.

From Khabarovsk. "(No. 612a, Nov. 8, 1906.) An early green pea obtained from Mr. V. T. Kovaleff, in charge of agricultural station. Original seed secured in Russia in 1900; a rather good producer at Khabarovsk." (*Meyer*.)

## 20382. PISUM SATIVUM.

Pea.

From Khabarovsk. "(No. 613a, Nov. 8, 1906.) A local variety of white peas secured from Mr. V. T. Kovaleff, in charge of agricultural station. This variety is the largest producer in these regions." (*Meyer*.)

## 20383. LATIYRUS MARITIMUS.

From the shore of Amur Bay, near Sedansk. "(No. 614a, Oct. 6, 1906.) A perennial pea." (*Meyer*.)

## 20384. TRIFOLIUM sp.

Clover.

From the mountains near Czernigowka. "(No. 615a, Oct. 22, 1906.) For description see 328a and 329a (S. P. I. Nos. 20021 and 20022.)" (*Meyer*.)

## 20289 to 20424—Continued.

20385. *VICIA* sp.

Vetch.

From the mountains near Czernigowka. (No. 616a, Oct. 21, 1906.)

20386. *AMPHICARPAEA EDGORTHII* (?).

From the mountains near Czernigowka. (No. 617a, Oct. 22, 1906.)

20387. *SCIRPUS LACUSTRIS*.

From near Sedansk. "(No. 618a, Oct. 7, 1906.) Found growing in standing water on clayey land. May be of use for making coarse, cheap matting. Sow the seeds in pans which are kept in standing water." (Meyer.)

20388. *JUNCUS EFFUSUS* (?).

Rush.

From near Czernigowka. "(No. 620a, Oct. 22, 1906.) A rush, found growing in moist mountain meadows on black, peaty soil. This is a valuable rush for matting manufacture. See Nos. 559 and 560 (S. P. I. No. 19597)." (Meyer.)

20389. *JUNCUS* sp. (?).

From near Vladivostok. "(No. 624a, Oct. 5, 1906.) A juncus-like plant growing in swampy, submerged places." (Meyer.)

20390. *ELYMUS SABULOSUS*.

From the shore of Amur Bay, Sedansk. "(No. 626a, Oct. 7, 1906.) A grass which may be of use as a sand binder in the northern parts of the United States." (Meyer.)

20391. *CALAMAGROSTIS* sp.

From the mountains near Czernigowka. "(No. 627a, Oct. 22, 1906.) A tall, slender grass, growing in dense masses in the open forest. It is browsed upon by cattle and may be of use as a forage grass in the colder parts of the United States." (Meyer.)

20392. *ARUNDINELLA ANOMALA*.

From the mountains near Czernigowka. "(No. 629a, Oct. 21, 1906.) A coarse grass that may be of use as a forage grass in the colder, drier parts of the United States." (Meyer.)

20393. *PANICULARIA* sp.

From near Sedansk. "(No. 631a, Oct. 7, 1906.) A tall-growing variety of swamp-grass, to be tried as a fodder grass on swampy land." (Meyer.)

20394. *PANICULARIA* sp.

From near Sedansk. (No. 632, Oct. 7, 1906.) For description see S. P. I. No. 20393.

20395. *ANDROPOGON* sp.

From the mountains near Czernigowka. "(No. 633a, Oct. 22, 1906.) A grass found growing in the open forest on rather sterile soil." (Meyer.)

20396. *PHASEOLUS VULGARIS*.

Bean.

From Khabarovsk. "(No. 634a, Nov. 15, 1906.) Large, red beans, purchased on the market at Khabarovsk. These beans are grown in Siberia for food, being eaten either fresh or dried. This is a dwarf variety, and seems to thrive best on black, peaty soil." (Meyer.)

20397. *PHASEOLUS VULGARIS*.

Bean.

From Merkoehofka. "(No. 635a, Oct. 25, 1906.) Large, rosy beans, grown locally for food, being eaten either fresh or dried. A dwarf variety that seems to thrive best on black, peaty soil." (Meyer.)

## 20289 to 20424—Continued.

## 20398. PHASEOLUS VULGARIS.

Bean.

From Merkoechofka. "(No. 636a, Oct. 25, 1906.) A yellow bean, grown locally for food." (*Meyer.*)

## 20399. PHASEOLUS VULGARIS.

Bean.

From Merkoechofka. "(No. 637a, Oct. 25, 1906.) Medium-sized, dwarf, white beans, grown locally for food." (*Meyer.*)

## 20400. PHASEOLUS VULGARIS.

Bean.

From Merkoechofka. "(No. 638a, Oct. 25, 1906.) Small, dwarf, white beans, grown locally for food." (*Meyer.*)

## 20401. PHASEOLUS VULGARIS.

Bean.

From Merkoechofka. "(No. 639a, Oct. 25, 1906.) Very small, dwarf, white beans, grown locally for food." (*Meyer.*)

## 20402. PHASEOLUS VULGARIS.

Bean.

From Khabarovsk. "(No. 640a, Nov. 15, 1906.) Small, yellowish beans, purchased in the market at Khabarovsk." (*Meyer.*)

## 20403. PHASEOLUS VULGARIS.

Bean.

From Khabarovsk. "(No. 641a, Nov. 15, 1906.) Small, blackish beans, purchased in the market at Khabarovsk." (*Meyer.*)

## 20404. PHASEOLUS VULGARIS.

Bean.

From Khabarovsk. "(No. 642a, Nov. 15, 1906.) Small, red beans, purchased in the market at Khabarovsk." (*Meyer.*)

## 20405. GLYCINE HISPIDA.

Soy bean.

From Khabarovsk. "(No. 643a, Nov. 15, 1906.) Round, yellow soy beans purchased in the market at Khabarovsk. The Chinese let these beans sprout and use the sprouts all winter as a vegetable. Oil is also extracted from this variety, and the cakes thus formed make a very nutritious food for horses." (*Meyer.*)

## 20406. GLYCINE HISPIDA.

Soy bean.

From Khabarovsk. "(No. 644a, Nov. 15, 1906.) A yellow soy bean purchased in the market at Khabarovsk." (*Meyer.*)

## 20407. GLYCINE HISPIDA.

Soy bean.

From Merkoechofka. "(No. 645a, Oct. 25, 1906.) A brown-black variety grown in eastern Siberia; does not scatter when ripe and is very late in ripening, as it is harvested in the last half of October. Is used for food, being boiled with millet. This variety seems to have come originally from more southern regions, as the season here is somewhat short for it." (*Meyer.*)

## 20408. GLYCINE HISPIDA.

Soy bean.

From Khabarovsk. "(No. 647a, Nov. 8, 1906.) Black soy beans obtained from Mr. V. T. Kovaleff, in charge of the experiment station at Khabarovsk. These seeds came originally from Manchuria in 1899 and are ripening here to perfection, while the light and dark yellow varieties do not ripen well at all. Are used for food for domestic animals when boiled, and are also sometimes fed in the green state." (*Meyer.*)

## 20409. GLYCINE HISPIDA.

Soy bean.

From Merkoechofka. "(No. 648a, Oct. 25, 1906.) Very small, brownish beans obtained from a farmer in Merkoechofka; said to have come originally from Manchuria." (*Meyer.*)



## 20289 to 20424—Continued.

## 20410. GLYCINE HISPIDA.

Soy bean.

From Merkoechofka. "(No. 649a, Oct. 25, 1906.) Very small, black beans obtained from a farmer in Merkoechofka; said to have come originally from Manchuria." (*Meyer.*)

## 20411. GLYCINE HISPIDA.

Soy bean.

From Merkoechofka. "(No. 650a, Oct. 25, 1906.) Very small, dull-black beans obtained from a farmer in Merkoechofka; said to have come originally from Manchuria." (*Meyer.*)

## 20412. GLYCINE HISPIDA.

Soy bean.

From Merkoechofka. "(No. 651a, Oct. 25, 1906.) Brown soy beans found mixed with No. 645a (S. P. I. No. 20406)." (*Meyer.*)

## 20413. PHASEOLUS VULGARIS.

Bean.

From Merkoechofka. "(No. 652a, Oct. 25, 1906.) Black beans." (*Meyer.*)

## 20414. GLYCINE HISPIDA.

Soy bean.

From Merkoechofka. "(No. 653a, Oct. 25, 1906.) Small, black soy beans obtained from a farmer in Merkoechofka; said to have come originally from Manchuria." (*Meyer.*)

## 20415. PHASEOLUS VULGARIS.

Bean.

From Khabarovsk. "(No. 654a, Nov. 15, 1906.) Red beans found mixed with No. 634a (S. P. I. No. 20396), and seem to be a variety of that number." (*Meyer.*)

## 20416. PHASEOLUS VULGARIS.

Bean.

From Khabarovsk. "(No. 655a, No. 15, 1906.) Brown beans found mixed with No. 634a (S. P. I. No. 20396), and seem to be a variety of that number." (*Meyer.*)

## 20417. PHASEOLUS VULGARIS.

Bean.

From Khabarovsk. "(No. 656a, Nov. 15, 1906.) Dark brown-red beans found mixed with No. 634a (S. P. I. No. 20396)." (*Meyer.*)

## 20418. TYPHA LAXMANNI.

Cat-tail.

From near Vladivostok. "(No. 664a, Oct. 5, 1906.) A very diminutive *Typha* especially adapted for a small pond in a Japanese garden. Should be sown on sterilized, peaty soil and the seed vessel kept in a saucer of water with a glass plate over the top." (*Meyer.*)

## 20419. NYMPHAEAE SP.

Pond lily.

From Lake Hanka. "(No. 665a, Oct. 29, 1906.) A water lily found growing in Lake Hanka; probably not ornamental." (*Meyer.*)

## 20420. RHEUM RHAPONTICUM.

Rhubarb.

From Khabarovsk. "(No. 669a, Nov. 20, 1906.) A rhubarb perfectly hardy in this climate, where the temperature drops to 45° F. below zero in midwinter. Obtained from the agricultural station at Khabarovsk." (*Meyer.*)

## 20421. PHASEOLUS VULGARIS.

Bean.

From Khabarovsk. "(No. 670a, Nov. 20, 1906.) A large, climbing bean obtained from the agricultural station at Khabarovsk. This bean is eaten as a vegetable when fresh, the pods being sliced." (*Meyer.*)



## 20289 to 20424—Continued.

## 20422. PAPAVER SOMNIFERUM.

Opium poppy.

From Khabarovsk. "(No. 671a, Nov. 20, 1906.) Seed of a white poppy obtained from the agricultural station at Khabarovsk. This poppy is used locally by the Russians as a condiment on cakes and for oil production, and by the Chinese for opium production." (Meyer.)

## 20423. PAPAVER SOMNIFERUM

Opium poppy.

From Khabarovsk. "(No. 672a, Nov. 20, 1906.) Seed of a blue poppy obtained from the agricultural station at Khabarovsk. For description see No. 671a (S. P. I. No. 20422)." (Meyer.)

## 20424. AVENA SATIVA.

Oat.

From Khabarovsk. "(No. 673a, Nov. 20, 1906.) *Black French*. 'Pro-lifique.' Obtained from the agricultural station at Khabarovsk. These oats are the best variety that has been experimented with in these northern regions and are considered by the manager of the station as very good." (Meyer.) (Same as S. P. I. No. 20364.)

## 20425. MEDICAGO SATIVA.

Alfalfa.

From Liaoyang, Manchuria. Received through Mr. Frank N. Meyer, agricultural explorer, February 28, 1907.

"(No. 721a, Jan. 26, 1907.) An alfalfa growing in a sterile and rather exposed situation on the city wall of Liaoyang; possibly of value for the northern arid regions of the United States. Does not produce much growth in Liaoyang, but may develop when placed in a better situation." (Meyer.)

## 20426 to 20431.

From Paris, France. Presented by Prof. Julien Constantin, of the Museum of Natural History. Received March 16, 1907.

Roots, as follows:

## 20426. COLEUS DAZO.

## 20429. PLECTRANTHUS COPPINI.

*Dazo.*

Variety *nigra*.

## 20427. COLEUS TUBEROSUS.

## 20430. PLECTRANTHUS COPPINI.

## 20428. PLECTRANTHUS COPPINI.

Variety *rubra*.

## 20431. PLECTRANTHUS TERNATUS.

## 20435. SECHIAM EDULE.

Chayote.

From Finchal, Madeira. Received through Mr. David Fairchild, March 19, 1907.

A lot containing large, smooth, and small prickly fruits.

## 20436. (Undetermined.)

"Umshakata."

From Gwelo, South Africa. Presented by Mr. W. M. Longden, of Melsetter. Received March 25, 1907.

"A fruit very common in the low-lying parts of the district, known by the natives as *Umshakata*. This tree grows in many parts of this district, but attains a great size only in very warm, low-lying parts, and does not seem to fruit at all in places where there is much frost. This fruit is from the farm of Mr. R. A. Blake, of Gwelo." (Longden.)

## 20438 to 20440.

From Kelso, Scotland. Received through Laing and Mather, March 23, 1907.

## 20438. DACTYLIS GLOMERATA.

Orchard grass.

*Danish.*

## 20438 to 20440—Continued.

20439. PHLEUM PRATENSE.

Timothy.

*Scotch.*

20440. FESTUCA PRATENSIS.

Meadow fescue.

*Danish.*

## 20447. DOLICHOS LABLAB.

Hyacinth bean.

From Paris, France. Received through Vilmorin-Andrieux & Co., March 25, 1907.

Stringless variety.

## 20450. XANTHOSOMA sp.

Yautia.

From the Isle of Pines. Presented by Dr. S. W. Mellott, of Santa Fe. Received March 26, 1907.

"Roots of what is said to be the best variety of yautia grown in the Isle of Pines. This lot is from an English colony from Cayman Island, now settled on the south coast of the Isle of Pines." (*Mellott.*)

## 20451. XANTHOSOMA sp.

Yautia.

From Victoria, Tamaulipas, Mexico. Presented by Dr. Edward Palmer. Received March 25, 1907.

"A very common plant here; it gets into the water ditches and is as hard to get rid of as Johnson grass; it is called *Rejolgur* and no use is made of it here." (*Palmer.*)

## 20453. AGAVE sp.

Zapupe.

From Victoria, Tamaulipas, Mexico. Received through Mr. Bernardo Zodilla, March 27, 1907.

Bulbils.

## 20454. SCIRPUS sp.

Rush.

From Caldas da Rainha, Portugal. Received through Mr. David Fairchild, March 27, 1907.

"(No. 020.) Seed of a rush called the wild rush, which, though longer and even taller at times than the slender variety (see S. P. I. No. 19998), is brittle and not used for tying the vines or for mat making." (*Fairchild.*)

## 20458 to 20483.

From Svalöf, Sweden. Received through the Allmänna Svenska Utsädesaktiebolaget, March 22, 1907.

20458. AVENA SATIVA.

Oat.

*Svalöfs Hvitlinghafre* (White oats).

20459. AVENA SATIVA.

Oat.

*Svalöfs Ligowohafre* (Ligowo oats).

20460. AVENA SATIVA.

Oat.

*Svalöfs Guldregnshafre* (Golden Rain oats).

20461. AVENA SATIVA.

Oat.

*Svalöfs Borstlösa Propsteierhafre* (awnless Propsteier oats.)

20462. AVENA SATIVA.

Oat.

*Svalöfs Hvita Propsteierhafre* (White Propsteier oats).

20463. AVENA SATIVA.

Oat.

*Svalöfs Svarta Klockhafre* (Black Bell oats).

## 20458 to 20483—Continued.

20464.	AVENA SATIVA.	Oat.
	<i>Svalöfs Svarta Stormogulhafre</i> (Black Great Mogul oats).	
20465.	PISUM SATIVUM.	Pea.
	<i>Svalöfs Kapitalärt</i> (Capital).	
20466.	PISUM SATIVUM.	Pea.
	<i>Svalöfs Concordiaärt</i> (Concordia).	
20467.	PISUM ARVENSE.	Pea.
	<i>Soloärt</i> (Solo).	
20468.	TRIFOLIUM PRATENSE.	Red clover.
	<i>Gammal Svensk Rödklöfrer</i> (Old Swedish red clover).	
20469.	PHLEUM PRATENSE.	Timothy.
20470.	DACTYLIS GLOMERATA.	Orchard grass.
	<i>Hundäring</i> (Couch-grass).	
20471.	ARRHENATHERUM ELATIUS.	Tall oat-grass.
	<i>Knylhafre</i> (Tall oats).	
20472.	FESTUCA PRATENSIS.	Meadow fescue.
	<i>Angssringel</i> (Dansk.) (Danish meadow fescue).	
20473.	FESTUCA ARUNDINACEA.	Reed fescue.
	<i>Rörsringel</i> (Reed fescue).	
20474.	BROMUS INERMIS.	Smooth brome-grass.
	<i>Foderlost</i> (Fodder brome-grass).	
20475.	BROMUS ERECTUS.	Erect brome-grass.
	<i>Raklost</i> (Erect brome-grass).	
20476.	POA PRATENSIS.	Kentucky bluegrass.
	<i>Angsgräs</i> (Meadow reed).	
20477.	HOLCUS LANATUS.	Velvet grass.
	<i>Luddtätel</i> (Velvet grass).	
20478.	PHALARIS ARUNDINACEA.	Reed canary grass.
	<i>Rörflen</i> (Reed canary grass).	
20479.	MELILOTUS ALBA.	Sweet clover.
	<i>Hvitmelot</i> (White melilot).	
20480.	HORDEUM DISTICHUM.	Two-row barley.
	<i>Hannchen</i> .	
20481.	HORDEUM HEXASTICHUM.	Six-row barley.
	<i>Yätte Serradskorn</i> .	
20482.	HORDEUM DISTICHUM.	Two-row barley.
	<i>0301 Gottland</i> .	
20483.	BRASSICA RAPA.	Turnip.
	<i>Kälrötter</i> (cabbage-root).	

**20484 to 20490. XANTHOSOMA spp.****Yautia.**

From Sanchez, Santo Domingo. Presented by Mr. A. Hyatt Verrill, through Mr. O. W. Barrett. Received March 30, 1907.

Seven apparently distinct varieties without further data.

**20492. PITTOSPORUM PENTANDRUM.**

From Manila, P. I. Presented by Mr. W. S. Lyon, of the Bureau of Agriculture, March 21, 1907.

"Seed of an evergreen shrub, very showy when in fruit. Found in the Zambales Mountains at an altitude of 300 to 600 feet." (*Lyon.*)

**20493. (Undetermined.)**

From Washington, D. C. Presented by Hon. Edward A. Moseley, secretary, Interstate Commerce Commission. Received April 1, 1907.

*Hon-Qua.* "Seed of a species of gourd-like melon which the Chinese use for preserve making and in soups. Mr. Moseley says that the seeds of this are characteristic, with a curious protuberance near the hilum. Chinese in this country pay 50 cents a pound for these melons. They are often kept for two or three years by the Chinese before using. The culture is the same as that given to watermelons. Flesh white and as firm as the part of a watermelon which is commonly preserved." (*Fairchild.*)

**20495 to 20504. PHOENIX DACTYLIFERA.****Date.**

From Tempe, Ariz. Received through Mr. C. J. Brand during the winter of 1906-7.

Seeds from American-grown fruit of the following imported varieties:

- 20495. *Amari.* (P. L. H. No. 2066.)
- 20496. *Birket el Haggi.* (P. L. H. No. 2067.)
- 20497. *Deglet Noor.* (P. L. H. No. 2068.)
- 20498. *False Rhars.* (P. L. H. No. 2069.)
- 20499. *Hamraia.* (P. L. H. No. 2070.)
- 20500. *Kemp's Seedling.* (P. L. H. No. 2071.)
- 20501. (No name.) (P. L. H. No. 2072.)
- 20502. *Oga de Bedreschen.* (P. L. H. No. 2073.)
- 20503. *Purdy Seedling.* (P. L. H. No. 2074.)
- 20504. *Rhars.* (P. L. H. No. 2075.)

See remarks under next shipment.

**20505 to 20507. PHOENIX DACTYLIFERA.****Date.**

From Tempe, Ariz. Received through Mr. F. H. Simmons, manager, Tempe Date Garden, March 10, 1907.

Seeds from American-grown fruit of the following varieties:

- 20505. *Deglet Noor.* (P. L. H. No. 2098.)
- 20506. *Rhars.* (P. L. H. No. 2099.)
- 20507. *Oga de Bedreschen.* (P. L. H. No. 2100.)

"Both lots, S. P. I. Nos. 20495 to 20507, were raised on imported offshoots grown in the Cooperative Date Garden in Tempe and were distributed with the expectation of securing some good varieties through seedlings." (*Brand.*)

## 20508 to 20514. PHOENIX DACTYLIFERA.

Date.

From Bagdad, Asiatic Turkey. Received through the Hills Brothers Company, of Bassorah, Arabia, and New York, N. Y., February 15, 1907.

A collection of date seeds, as follows:

20508.

*Ascherasi.* (See S. P. I. No. 8739.)

20509.

*Bcdraihe.* (See S. P. I. No. 8740.)

20510.

*Lchedi* or *Zchedi.* (See S. P. I. No. 8743.)

20511.

*Kustawi.* (See S. P. I. No. 8738.)

20512.

*Maktum.* (See S. P. I. No. 8741.)

20513.

*Sukeri.* (See S. P. I. No. 8745.)

20514.

*Yaberzal* or *Taberzal.* (See S. P. I. No. 8794.)

## 20515 and 20516. PHOENIX DACTYLIFERA.

Date.

From Washington, D. C. Received through H. L. Strang & Co., March, 1907.

Two varieties of dates purchased in the open market.

20515.

*Haluici*, from Bassorah, Arabia. (See S. P. I. No. 8750.)

20516.

*Fard*, from Mascat, Arabia. (See S. P. I. No. 8754.)

"Both lots, S. P. I. Nos. 20508 to 20516, inclusive, secured for the purpose of propagating seedlings in the expectation of securing some good varieties." (*Stringle.*)

## 20519. MUSA LIVINGSTONIANA.

From Pretoria, Transvaal. Presented by Prof. J. Burtt Davy, botanist, Transvaal Department of Agriculture. Received March 18, 1907.

"This is an East African wild banana, with seed fruits; probably a good ornamental." (*Barrett.*)

## 20521 to 20795.

From northern Europe, Siberia, and eastern Asia.

Seeds collected by Prof. N. E. Hansen, of the agricultural experiment station, Brookings, S. Dak., in 1906 while traveling as an agricultural explorer for the Department of Agriculture on an extended trip through Scandinavia, Russia, Siberia, and returning through China and Japan. Received March 1907.

20521. TRIFOLIUM PRATENSE.

Red clover.

From Lapland, Sweden. "(No. 1.) Wild red clover from Pajala; 1905 seed." (*Hansen.*)

20522. TRIFOLIUM PRATENSE.

Red clover.

From Lapland, Sweden. "(No. 2.) Native red clover from Karungi, about 40 kilometers north of Haparanda." (*Hansen.*)

20523. TRIFOLIUM PRATENSE.

Red clover.

From Lapland, Sweden. "(No. 3.) Wild red clover found in the vicinity of the experiment station in Luleå; the locality is termed Norrbotten. Seed from a different place from that of No. 6 (S. P. I. No. 20526)." (*Hansen.*)

## 20521 to 20795—Continued.

## 20524. TRIFOLIUM PRATENSE.

Red clover.

From Lapland, Sweden. "(No. 4.) Native red clover from Pajala; 1906 seed." (*Hansen.*)

## 20525. TRIFOLIUM PRATENSE.

Red clover.

From Lapland, Sweden. "(No. 5.) Seed collected by the experiment station at Luleå from an early, wild red clover in 1906." (*Hansen.*)

## 20526. TRIFOLIUM PRATENSE.

Red clover.

From Luleå, Sweden. "(No. 6.) Wild red clover found in the vicinity of the experiment station in Luleå. Seed from a different place from that of No. 3 (S. P. I. No. 20523)." (*Hansen.*)

## 20527. TRIFOLIUM PRATENSE.

Red clover.

From Luleå, Sweden. "(No. 7.) Seed collected in 1906 by the experiment station at Luleå from a single plant of the early wild red clover of that vicinity." (*Hansen.*)

## 20528. TRIFOLIUM PRATENSE.

Red clover.

From Luleå, Lapland, Sweden. "(No. 8.) This sample is from seed of a single plant selected by the experiment station at Luleå in 1906. The original seed was secured at Pajala, Lapland, in 1901. The extreme northern limit of the wild red clover in Lapland appears to be Kare-suando, about 68° 15' N. lat., so that the present sample is from about 75 miles south of the extreme northern limit." (*Hansen.*)

## 20529. TRIFOLIUM PRATENSE.

Red clover.

From Lapland, Sweden. "(No. 9.) Wild red clover from Kalie, about 62 miles north of Luleå." (*Hansen.*)

## 20530. TRIFOLIUM PRATENSE.

Red clover.

From Lapland, Sweden. "(No. 10.) Sample of the late-flowering form of the Swedish red clover. Originally from southern Sweden, but the present sample is 1906 seed and the result of thirteen years of natural selection at Luleå." (*Hansen.*)

## 20531. TRIFOLIUM PRATENSE.

Red clover.

From Lapland, Sweden. "(No. 11.) Seed collected in 1906 from a single plant of the local native red clover by the experiment station at Luleå." (*Hansen.*)

## 20532. TRIFOLIUM PRATENSE.

Red clover.

From Lapland, Sweden. "(No. 12.) Sample of the wild red clover from Pajala; 1906 seed from the experiment station at Luleå." (*Hansen.*)

## 20533. TRIFOLIUM PRATENSE.

Red clover.

From Bodoe, Norway. "(No. 13.) The wild red clover from Bodoe, latitude 67°. This is north of the Arctic Circle." (*Hansen.*)

## 20534. TRIFOLIUM REPENS.

White clover.

From Lapland, Sweden. "(No. 14.) Seed gathered in 1906 by the experiment station at Luleå from the native white clover of that vicinity." (*Hansen.*)

## 20535. TRIFOLIUM HYBRIDUM.

Alsike clover.

From Lapland, Sweden. "(No. 15.) Seed gathered in 1906 by the experiment station at Luleå from a single plant of the native alsike clover of that vicinity." (*Hansen.*)

## 20536. TRIFOLIUM REPENS.

White clover.

From Lapland, Sweden. "(No. 16.) Seed of the wild white clover gathered in 1906 about 20 miles north of Haparanda." (*Hansen.*)



## 20521 to 20795—Continued.

20537. TRIFOLIUM HYBRIDUM.

**Alsike clover.**

From Lapland, Sweden. "(No. 17.) Seed gathered in 1906 by the experiment station at Luleå from a single plant of wild alsike clover of that vicinity." (*Hansen.*)

20538. POA SEROTINA.

From Lapland, Sweden. "(No. 18.) Seed of a good native grass gathered in 1906 at Korpilombolo, about eighty-five miles north of Luleå." (*Hansen.*)

20539. POA SEROTINA L.

From Lapland, Sweden. "(No. 19.) Seed gathered from several plants in 1905 at Korpilombolo." (*Hansen.*)

20540. POA SEROTINA.

From Lapland, Sweden. "(No. 20.) Seed of a good native grass from Kalix, about 62 miles north of Luleå." (*Hansen.*)

20541. POA SEROTINA.

From Lapland, Sweden. "(No. 21.) Seed selected in 1906 from a single plant of the native form by the experiment station at Luleå." (*Hansen.*)

20542. POA SEROTINA.

From Lapland, Sweden. "(No. 22.) A good native grass from about 50 miles north of Luleå; gathered in 1905 by the experiment station at Luleå." (*Hansen.*)

20543. VICIA CRACCA.

**Bird vetch.**

From Lapland, Sweden. "(No. 23.) An excellent forage plant, especially on poor soil. Seed gathered from a single plant of the native form in 1906 by the experiment station at Luleå." (*Hansen.*)

20544. PHELEUM PRATENSE.

**Timothy.**

From Lapland, Sweden. "(No. 24.) Seed from several plants of the native timothy from southern or central Sweden. Grown at Luleå five years; seed gathered in 1906 by the experiment station at Luleå." (*Hansen.*)

20545. PHELEUM PRATENSE.

**Timothy.**

From Lapland, Sweden. "(No. 25.) Seed selected from a single plant of the native timothy at Pileå, Norrbotten district, in 1906." (*Hansen.*)

20546. PHELEUM ALPINUM.

**Mountain timothy.**

From Lapland, Sweden. "(No. 26.) Seed of the wild timothy from Qvickjock." (*Hansen.*)

20547. FESTUCA RUBRA.

**Red fescue.**

From Lapland, Sweden. "(No. 27.) Seed of the wild form from Luleå; selected by the experiment station." (*Hansen.*)

20548. FESTUCA RUBRA.

**Red fescue.**

From Lapland, Sweden. "(No. 28.) The same source as No. 27 (S. P. I. No. 20547), but a different selection." (*Hansen.*)

20549. FESTUCA ELATIOB.

**Tall fescue.**

From Lapland, Sweden. "(No. 29.) A good native grass from Ranea, about 25 miles north of Luleå." (*Hansen.*)

20550. AGROSTIS ALBA.

**Redtop.**

From Lapland, Sweden. "(No. 30.) Seed selected in 1905 by the experiment station at Luleå from wild plants in that vicinity." (*Hansen.*)

## 20521 to 20795—Continued.

20551. *ALOPECURUS PRATENSIS*.

Meadow foxtail.

From Lapland, Sweden. "(No. 31.) A good native grass from Luleå." (Hansen.)

20552. *ALOPECURUS NIGRICANS*.

From Lapland, Sweden. "(No. 32.) A good native grass from Haparanda. This grass likes rich, moist soil full of humus. Selection from Luleå Experiment Station." (Hansen.)

20553. *ALOPECURUS NIGRICANS*.

From Lapland, Sweden. "(No. 33.) The same source as No. 32 (S. P. I. No. 20552) but another selection." (Hansen.)

20554. *ALOPECURUS PRATENSIS*.

From Lapland, Sweden. "(No. 34.) A valuable grass highly regarded as making hay of as good quality as timothy. Suitable for moist soils. The native form from Luleå. See No. 267 (S. P. I. No. 20787)." (Hansen.)

20555. *ANTHYLLIS VULNERARIA*.

From Lapland, Sweden. "(No. 35.) A good native leguminous forage plant from Luleå." (Hansen.)

20556. *SECALE CEREALE*.

Rye.

From Yakutsk, Siberia. "(No. 36.) Spring rye from Yakutsk, 62° 30' N. lat., 132° west of Greenwich. This is probably the most northern point where cereals are raised to any extent in Siberia. This seed is old, as it was brought from Yakutsk by a Swedish expedition in 1898-99 searching after André. Sample secured at the experiment station, Svalöf, southern Sweden." (Hansen.)

20557. *HORDEUM VULGARE*.

Barley.

From Yakutsk, Siberia. "(No. 37.) Spring barley from the same source as No. 36 (S. P. I. No. 20556). This variety has done well at Svalöf and some new selections have been made from it." (Hansen.)

20558. *TRITICUM VULGARE*.

Wheat.

From Yakutsk, Siberia. "(No. 38.) Spring wheat from the same source as No. 36 (S. P. I. No. 20556)." (Hansen.)

20559. *AVENA SATIVA*.

Oat.

From Yakutsk, Siberia. "(No. 39.) Spring oats from the same source as No. 36 (S. P. I. No. 20556)." (Hansen.)

20560. *AVENA SATIVA*.

Oat.

From Svalöf, Sweden. "(No. 40.) A pedigree variety of spring oats (Svalöf No. .0392) selected by the experiment station at Svalöf from oats originally received from Yakutsk, Siberia. See Nos. 36 and 39 (S. P. I. Nos. 20556 and 20559)." (Hansen.)

20561. *AVENA SATIVA*.

Oat.

From Luleå, Lapland, Sweden. "(No. 41.) A pedigree variety of black oats selected from seed originally from Norrland, the Arctic Circle province of northern Norway. It is No. 11 of Luleå and No. .0668 of Svalöf. The present sample is from the experiment station at Luleå." (Hansen.)

20562. *AVENA SATIVA*.

Oat.

From Luleå, Sweden. "(No. 42.) A low, dwarf variety originally from Switzerland. The present sample was grown in 1906 by the experiment station at Luleå." (Hansen.)

## 20521 to 20795—Continued.

20563. AVENA SATIVA.

Oat.

From Luleå, Sweden. "(No. 43.) A tall, fine variety of black oats, the best so far at the Svalöf Experiment Station. It is Svalöf No. .0660, originally from the native black oats of northern Finland. The present sample is No. 10 from the experiment station at Luleå." (Hansen.)

20564. FESTUCA ELATIOR.

Tall fescue.

From Ranea, Lapland, Sweden. "(No. 44.) An excellent grass both for sandy and clay soils; very productive of seed and responds quickly to manuring with potash and phosphate manures. Ranea is about 25 miles north of Luleå." (Hansen.)

20565. VICIA CRACCA.

Bird vetch.

From the Ultuna district, 60° N. lat., Sweden. "(No. 45.) A good native leguminous forage plant." (Hansen.)

20566. TRIFOLIUM PRATENSE.

Red clover.

From the Norrland section, 64° N. lat., Sweden. (Hansen's No. 46.)

20567. TRIFOLIUM PRATENSE.

Red clover.

From Sweden. "(No. 47.) The Swedish red clover as grown for 20 years on the same farm in the Luleå district in 60° N. lat." (Hansen.)

20568. TRITICUM VULGARE.

Wheat.

From the experiment station at Ultuna, near Upsala, Sweden. "(No. 48.) *Svalöf's Extra Squarchead*. Winter wheat selected by the experiment station at Svalöf, southern Sweden." (Hansen.)

20569. TRITICUM VULGARE.

Wheat.

From Ultuna, near Upsala, Sweden. "(No. 49.) *Poodle*. A winter wheat originated by the experiment station at Svalöf. The name refers to the velvet chaff, being woolly like a French poodle." (Hansen.)

20570. VICIA sp.

Vetch.

From Svalöf, Sweden. "(No. 50.) A good forage plant originated by the experiment station at Svalöf; season early. Svalöf No. .0151." (Hansen.)

20571. MEDICAGO MEDIA.

Sand lucern.

From Ultuna, near Upsala, Sweden. "(No. 51.) Native alfalfa taken from 20-year-old fields near Ultuna, about 60° N. lat. Possibly there is some *Medicago falcata* mixed with it, as both are found in this vicinity. A promising forage plant for cold, rather moist climates. For cold, dry climates the Siberian form of *Medicago falcata* is much more promising." (Hansen.)

20572. TRITICUM VULGARE.

Wheat.

From the experiment station at Ultuna, near Upsala, Sweden. "(No. 52.) A very hardy, early winter wheat with short straw." (Hansen.)

20573. VICIA CRACCA.

Bird vetch.

From the Ultuna district, central Sweden. "(No. 53.) The wild form of this promising forage plant from 60° N. lat." (Hansen.)

20574. LOTUS CORNICULATUS.

Bird's-foot trefoil.

From Sweden. "(No. 54.) A promising native leguminous forage plant with yellow flowers. Seed collected about 121 miles north of Ultuna, 62° N. lat., by the father of Doctor Elofson, for the experiment station at Ultuna." (Hansen.)

## 20521 to 20795—Continued.

## 20575. LATHYRUS PRATENSIS.

Meadow pea.

From Ultuna, 60° N. lat., Sweden. "(No. 55.) A native wild leguminous forage plant." (*Hansen.*)

## 20576. PHELEUM ALPINUM.

Mountain timothy.

From Ultuna, Sweden. "(No. 56.) Native timothy from Sanding, in the Austrian Alps. Seed grown the second year at the experiment station at Forse, 63° N. lat., in 1906. The present sample is from Dr. E. O. Arenander, at the experiment station at Ultuna." (*Hansen.*)

## 20577. VICIA CRACCA.

Bird vetch.

From the Vesterbotten district, Sweden. "(No. 57.) A valuable forage plant collected from wild plants in northern Sweden, north of the Polar Circle, in the Vesterbotten district, 64° N. lat. Over 80 per cent of the seeds are hard, so should be prepared by scratching by the Svalöf method before sowing." (*Hansen.*)

## 20578. TRIFOLIUM PRATENSE.

Red clover.

From Bodoe, Norway. "(No. 58.) Wild red clover collected on the Landingenen farm, near the experiment station at Bodoe, 67° N. lat." (*Hansen.*)

## 20579. HORDEUM HEXASTICHUM.

Six-row barley.

From Tjeldnaes, Loedingen district, Norway. "(No. 59.) A spring barley which ripens in 94 days. From 68° 20' N. lat." (*Hansen.*)

## 20580. HORDEUM VULGARE.

Barley.

From Stroemmen, Tysfjord district, 68° N. lat., Norway. "(No. 60.) A spring barley which ripens in 96 days." (*Hansen.*)

## 20581. HORDEUM VULGARE.

Barley.

From Hammeroe district, 68° N. lat., Norway. "(No. 61.) A spring barley which ripens in 93 days." (*Hansen.*)

## 20582. HORDEUM VULGARE.

Barley.

From Moljord, Beleren district, Norway. "(No. 62.) A spring barley of very ancient cultivation in this district; lat 66° 54'." (*Hansen.*)

## 20583. HORDEUM VULGARE.

Barley.

From Liland, Evenaes district, 68° 29' N. lat., Norway. (No. 63.) Spring barley.

## 20584. AVENA SATIVA.

Oat.

From Breirem, Vefsen district, Norway. "(No. 64.) Spring oats from 65° 55' N. lat., where they ripen in 91 days." (*Hansen.*)

## 20585. SECALE CEREALE.

Rye.

From Aaenget, Mo district, Norway. "(No. 65.) Spring rye from 66° 20' N. lat., where it ripens in 120 days. Aaenget is about 10 Norwegian miles from the coast." (*Hansen.*)

## 20586. SECALE CEREALE.

Rye.

From Hjertoe, Nordfolden district, Norway. "(No. 66.) Winter rye from 67° 40' N. lat. This rye has been cultivated for many years in this locality." (*Hansen.*)

## 20587. HORDEUM VULGARE.

Barley.

From Trysil, Hatfjelddalen district, Norway. "(No. 67.) One of the very earliest varieties of spring barley, which ripens on sandy soil in 98 days. Trysil is a mountain village in the Trysil Valley in Nerli; latitude 65° 32'." (*Hansen.*)

## 20521 to 20795—Continued.

20588. *HORDEUM VULGARE*.

Barley.

From Nerli, Hatfjelddalen district, Norway. "(No. 68.) Spring barley grown at Nerli on very sandy soil; latitude 65° 32'. The harvest often fails in this locality." (*Hansen.*)

20589. *AVENA SATIVA*.

Oat.

From Vefsen district, latitude 65° 30', Norway. (No. 69.) Spring oats.

20590. *FESTUCA ELATIOR*.

Tall fescue.

From Mjoes, Vardahl, Christiania province, Norway. "(No. 70.) Wild seed selected by Director Nielsen, of the experiment station at Bodoe; latitude 67°." (*Hansen.*)

20591. *PISUM ARVENSE*.

Field pea.

From Bodoe, Norway. "(No. 71.) *Seedling*. A field pea originally introduced from Denmark by Mr. Sebastian Larson, of Aas, Norway; grown for the past twelve years in Norway—the last two at the Bodoe Experiment Station. Does well on sandy soil at Bodoe and ripens in 120 days." (*Hansen.*)

20592. *HORDEUM VULGARE*.

Barley.

From Bodoe, Norway. "(No. 72.) Spring barley from the experiment station at Bodoe; latitude 67°." (*Hansen.*)

20593. *PHLEUM PRATENSE*.

Timothy.

From Christiania, Norway. "(No. 73.) Native timothy, No. 469, from A. Michelet, seedsman. The claim in Norway is that the native is hardier than that introduced." (*Hansen.*)

20594. *BRASSICA RAPA*.

Turnip.

From Mjelde, near Tromsø, Norway. "(No. 74.) Mjelde is near 70° N. lat. Turnips are found very useful for stock feeding north of the Arctic Circle in Lapland." (*Hansen.*)

20595. *LOLIUM PERENNE*.

Perennial rye-grass.

From Aas, Norway. "(No. 75.) Native name *Yædersk Raigrass*. Native grass from the upland district of southern Norway. This sample is from the experiment station at Aas." (*Hansen.*)

20596. *HORDEUM VULGARE*.

Barley.

From Bjaerkoe, an island on the coast of northern Norway. "(No. 76.) An extremely early spring barley." (*Hansen.*)

20597. *LUPINUS ANGUSTIFOLIUS* (?)

From Aas, Norway. "(No. 77.) A perennial forage plant from the experiment station at Aas." (*Hansen.*)

20598. *BRASSICA RAPA*.

Turnip.

From Aas, Norway. "(No. 78.) The yellow Finland turnip, from the experiment station at Aas." (*Hansen.*)

20599. *BRASSICA RAPA*.

Turnip.

From Aas, Norway. "(No. 79.) Swedish turnip from the experiment station at Aas; obtained in 1902 from Mustiala, Finland." (*Hansen.*)

20600. *HORDEUM VULGARE*.

Barley.

From the island of Donnes, Nordland, Norway. "(No. 80.) *Donnes*. Spring barley from the large estate Donnes, the proprietor of which is Mr. Isaac Coldevin, of Nordoevaagen. Donnes is an island in Nordland, the Arctic Circle province of Norway. This variety is not so early, but is more productive than the *Bjoerkeby* barley. Sample from the experiment station at Aas." (*Hansen.*)



## 20521 to 20795—Continued.

## 20601. BRASSICA RAPA.

Turnip.

From Budalen, Trondilagen in Roeraastrakten, Norway. "(No. 81.) Received through the experiment station at Aas." (*Hansen.*)

## 20602. FESTUCA RUBRA.

Red fescue.

From the Guldbrand Valley, Norway. "(No. 82.) A desirable native lawn grass." (*Hansen.*)

## 20603. BRASSICA RAPA.

Turnip.

From Vefsen, Nordland, the Arctic Circle province of Norway. "(No. 83.) Swedish turnip." (*Hansen.*)

## 20604. BRASSICA RAPA.

Turnip.

From Foerland, Ryfylke in Stavanger province, Norway. "(No. 84.) Swedish turnip." (*Hansen.*)

## 20605. BRASSICA RAPA.

Turnip.

From Bjoerli, in the Guldbrand Valley, Norway. (No. 85.)

## 20606. LATHYRUS PRATENSIS.

Meadow pea.

From Aas, Norway. "(No. 86.) A wild leguminous forage plant found in the vicinity of Aas." (*Hansen.*)

## 20607. HORDEUM VULGARE.

Barley.

From Bjoerkoe Island, Norway. "(No. 87.) Spring barley." (*Hansen.*)

## 20608. HORDEUM VULGARE.

Barley.

From Donnes, Norway. "(No. 88.) *Donnes*. A very early spring barley." (*Hansen.*)

## 20609. VICIA CRACCA.

Bird vetch.

From the experiment station at Otava, Finland. "(No. 89.) 1905 seed. *Vicia cracca* is coming to the front as a valuable forage plant in Finland, and hence merits special attention for cool, moist climates." (*Hansen.*)

## 20610. AVENA SATIVA.

Oat.

From the experiment station at Otava, Finland. "(No. 90.) Native black oats." (*Hansen.*)

## 20611. VICIA CRACCA.

Bird vetch.

From the experiment station at Otava, Finland. "(No. 91.) The same as No. 89 (S. P. I. No. 20609), but is 1906 seed." (*Hansen.*)

## 20612. ANDROPOGON SORGHUM.

Sorghum.

From Manchuria. "(No. 92.) *Gaolan*. Brought by a Russian student-soldier from Manchuria after the Russo-Japanese war." (*Hansen.*)

## 20613. TRIFOLIUM ELEGANS.

Clover.

From Viatka, Russia. "(No. 93.) Native red clover from Viatka, near Perm, in the northern Volga River section in eastern Russia. This is about 58° latitude. A drought-resistant steppe clover." (*Hansen.*)

## 20614. AGROPYRON DASYANTHUM.

From Moscow, Russia. "(No. 94.) A valuable Russian steppe grass originally from a single spike. This is No. 2635 of Professor Williams, of the Moscow Agricultural College." (*Hansen.*)



## 20521 to 20795—Continued.

## 20615. AGROPYRON CRISTATUM.

From Moscow, Russia. "(No. 95.) Grown from seed originally from Don province, southern Volga River region, Russia. See No. 167 (S. P. I. No. 20688). Variety D. This lot was selected for its larger and heavier seeds." (Hansen.)

## 20616. AGROPYRON SIBIRICUM.

From Moscow, Russia. "(No. 96.) The original mixture of elementary species from the Trans-Ural region east of Orenburg; hence, in extreme western Siberia. A valuable grass for dry steppes. This is No. 2636 of Professor Williams, of the Moscow Agricultural College." (Hansen.)

## 20617. ASTRAGALUS GLYCYPHYLLOS.

From Don province, Russia. "(No. 97.) A leguminous forage plant from the dry steppes of Don province of the Volga River region of south-eastern Russia." (Hansen.)

## 20618. POA ALPINA.

From Kazan province, Russia. "(No. 98.) A good native pasture grass from Kazan province of the northern Volga region in European Russia." (Hansen.)

## 20619. PANICUM ERUCIFORME.

From Poltava province, south-central Russia. "(No. 99.) A desirable native grass." (Hansen.)

## 20620. ANDROPOGON SORGHUM.

Sorghum.

From Ussurie province, Siberia. "(No. 100.) *Gaolan*. This variety grows from 20 to 25 feet in height, and during the Russo-Japanese war the Cossacks on horseback found trouble in getting through the sorghum fields, as they would be lost from view even with their spears." (Hansen.)

## 20621. ANDROPOGON SORGHUM.

Sorghum.

From Ussurie province, Siberia. "(No. 101.) *Gaolan*. For description see No. 100 (S. P. I. No. 20620). The head does not appear as compact as in No. 100. Seed brought from Manchuria by Russian student-soldiers after the Russo-Japanese war." (Hansen.)

## 20622. AGROPYRON DESERTORUM.

From the Trans-Ural region, Siberia. "(No. 102.) A drought-resistant grass from the dry steppes." (Hansen.)

## 20623. AGROPYRON SP.

From Moscow, Russia. "(No. 103.) This is from a single seed selected by Professor Williams, of the Moscow Agricultural College, from a plant with long, upright stolons from the Orenburg region on the boundary between European Russia and Siberia. Promising as a grass for dry, cold regions." (Hansen.)

## 20624. PHLEUM PRATENSE.

Timothy.

From Podolsk province, Russia. "(No. 104.) Wild native timothy." (Hansen.)

## 20625. ANDROPOGON SORGHUM.

Sorghum.

From Asiatic Russia. "(No. 105.) One of the best varieties cultivated by the native Mohammedans in Russian central Asia, east of the Caspian Sea. The native variety is *Ak-ju-gah-rah*." (Hansen.)

## 20521 to 20795—Continued.

## 20626. AGROPYRON CYLINDRICUM.

From Moscow, Russia. "(No. 106.) The first generation from a single seed selected by Professor Williams, of the Moscow Agricultural College, from a black-seeded form of a grass from Odessa, southern Russia, on the Black Sea." (*Hansen.*)

## 20627. ANDROPOGON SORGHUM.

Sorghum.

From Manchuria. "(No. 107.) Native name *Tjie-choo-meed-zha*. This variety is used for brooms in Manchuria. Seed brought from Manchuria by a Russian student-soldier after the Russo-Japanese war." (*Hansen.*)

## 20628. PHLEUM BOEHMERI.

Timothy.

From Moscow, Russia. "(No. 108.) Variety *macrantha*. A drought-resistant species of timothy from the east Russia steppes, where *Bromus inermis* is native. This is No. 2492A of Professor Williams, of the Moscow Agricultural College. The plants are not so tall as the species, but have very long spikes." (*Hansen.*)

## 20629. GLYCINE HISPIDA.

Soy bean.

From Manchuria. "(No. 109.) Variety *Hoo-an-doo*. Used for human food and for fodder in Manchuria and brought from that country by a Russian student-soldier after the Russo-Japanese war." (*Hansen.*)

## 20630. ASTRAGALUS CICER.

From Poltava province, southern European Russia. "(No. 110.) A native leguminous forage plant." (*Hansen.*)

## 20631. PHLEUM ASPERUM.

Timothy.

From Turgai province, western Siberia. "(No. 111.) A native timothy from the dry steppes of Turgai province. The very small seeds may be an objection to this species, but this may be remedied by selection." (*Hansen.*)

## 20632. AGROPYRON SIBIRICUM.

From Moscow, Russia. "(No. 112.) Variety *latifolia*, form A. A promising drought-resistant grass from the Trans-Ural region of western Siberia. See also No. 96 (S. P. I. No. 20616)." (*Hansen.*)

## 20633. PERILLA OCYMOIDES.

Perilla.

From Ussurie province, Siberia. (No. 113.) *Zooza*.

## 20634. PHLEUM BOEHMERI Wibel.

From Kiev, Russia. "(No. 114.) Seed from a single plant of the tall-growing native form." (*Hansen.*)

## 20635. AGROPYRON ELONGATUM.

From the Trans-Ural region, Siberia. "(No. 115.) Seed from a single plant of a native grass from the dry steppes." (*Hansen.*)

## 20636. ASTRAGALUS HYPOGLOTTIS.

From Potalva province, Russia. "(No. 116.) A native leguminous forage plant." (*Hansen.*)

## 20637. AGROPYRON SIBIRICUM.

From Moscow, Russia. "(No. 117.) Variety *angustifolia*, form B. A promising grass from the dry steppes of the Trans-Ural region, western Siberia. See also No. 96 (S. P. I. No. 20616)." (*Hansen.*)

## 20521 to 20795—Continued.

## 20638. TRIFOLIUM LUPINASTER.

From Tobolsk, Siberia. "(No. 118.) A native clover from the dry steppes of Tobolsk, where it endures  $-40^{\circ}$  F. The seed should be scratched with sand or by the Svalöf method to insure germination the first year; otherwise many of the seeds will not germinate until the second year." (Hansen.)

## 20639. AGROPYRON INTERMEDIUM.

From the Trans-Ural region, Orenburg province, Siberia. "(No. 119.) A collection of elementary species of a promising grass from the dry steppes of the Trans-Ural region of the Orenburg province. This province extends on both sides of the Ural range of mountains, which forms the natural boundary between European Russia and Siberia. The *non-aristate* plants, those without spines or long barbs on the seeds, should be selected as the only form desirable for cultivation." (Hansen.)

## 20640. PANICUM MILLACEUM.

Broom-corn millet.

From northwestern China. (No. 120.) *Mecza*.

## 20641. LATHYRUS MONTANUS.

From Tobolsk, Siberia. "(No. 121.) 1902 seed. A very good wild leguminous forage crop." (Hansen.)

## 20642. KOELERIA CRISTATA.

From Moscow, Russia. "(No. 122.) 1905 seed. Fourth generation from seed originally from Turgai province, a dry steppe region of western Siberia. This is one of the best steppe grasses." (Hansen.)

## 20643. KOELERIA CRISTATA.

From Moscow, Russia. "(No. 123.) 1904 seed. Third generation from seed originally from Don province, Volga River region, southern Russia. One of the best steppe grasses. This is No. 2560 of the Moscow Agricultural College." (Hansen.)

## 20644. CORONILLA VARIA.

Crown vetch.

From Don province, Russia. "(No. 124.) 1903 seed. A hardy steppe legume from Don province. A very handsome plant, with white and rose colored flowers." (Hansen.)

## 20645. ASTRAGALUS ASPER.

From Kherzon province, southern Russia. "(No. 125.) 1904 seed. A leguminous forage plant." (Hansen.)

## 20646. ELYMUS SABULOSUS.

From Moscow, Russia. "(No. 126.) Found on sand dunes in south-eastern Russia in the Volga River region. The hay is of no value, but it is good fodder when green. The horses on the dry steppes like the seed more than they do oats and get fat on it. This is No. 1181 of the Moscow Agricultural College." (Hansen.)

## 20647. VICIA VILLOSA.

Hairy vetch.

From Khavrof, Vladimir province, Russia. "(No. 127.) A well-known forage plant said to have come originally from western Asia. It is now cultivated to some extent in the United States." (Hansen.)

## 20648. BROMUS ERECTUS.

Upright brome-grass.

From the Kazan province, central Volga River region, Russia. "(No. 128.) A very good steppe grass." (Hansen.)

## 20649. CANNABIS SATIVA.

Hemp.

From Tomsk province, Siberia. (No. 129.)

## 20521 to 20795—Continued.

## 20650. LATHYRUS PRATENSIS.

Meadow pea.

From Kazan province, Volga River region, Russia. "(No. 130.) A tall plant with yellow flowers. A very good fodder plant, very common in the steppe region; a long-lived perennial." (*Hansen.*)

## 20651. VICIA SEPIUM.

Vetch.

From Perm-Ufa region, Russia. "(No. 131.) A very good fodder plant, very common in northeastern Russia, including the Volga, Kazan, Ufa, and Perm provinces. A long-lived perennial and a beautiful plant." (*Hansen.*)

## 20652. ALOPECURUS RUTHENICUS.

Russian foxtail.

From Russia. "(No. 132.) A good steppe grass from the dry steppe country of extreme eastern Russia and western Siberia in the Ural, Orenburg, and Trans-Ural region." (*Hansen.*)

## 20653. CHAETOPHLOA ALOPECUROIDES.

From Manchuria. "(No. 133.) Native name *Hoon-kood-zha*. A very good forage plant; also used for porridge by the natives of Manchuria. The present seed was brought by a Russian student-soldier from Manchuria after the Russo-Japanese war. The seeds of this millet are small, light reddish yellow; spikes long and dense, made up of many subspikes." (*Hansen.*)

## 20654. TRIFOLIUM ALPESTRE.

From Samara province, Russia. "(No. 134.) A wild red clover from Samara province, Volga River region, eastern Russia. Some authorities call this *Trifolium medium*. It is highly regarded as a drought-resistant clover for the dry steppes, where it is found native." (*Hansen.*)

## 20655. TRIFOLIUM MONTANUM.

From Moscow, Russia. "(No. 135.) First generation from seed originally from Kharkov province. This is the only clover (*Trifolium*) that is native to the south Russian steppes. It is not a heavy cropper, but is very drought resistant." (*Hansen.*)

## 20656. TRIFOLIUM MONTANUM.

From Voronezh province, Volga River region, eastern Russia. (No. 136.)

## 20657. TRIFOLIUM LUPINASTER.

From Tobolsk province, Siberia. "(No. 137.) Native clover from the Siberian steppes." (*Hansen.*)

## 20658. TRIFOLIUM MEDIUM.

Mammoth clover.

From Moscow, Russia. "(No. 138.) Seed originally from one plant of a wild steppe clover from the Kazan province, Volga River region, central-eastern Russia. Seed selected by Professor Williams, of the Moscow Agricultural College." (*Hansen.*)

## 20659. TRIFOLIUM PRATENSE.

Red clover.

From Perm province, Russia. "(No. 139.) A native red clover of the Perm province, from the northern part of the Volga River region. This is considered one of the best forms of the Russian clover, as it is from the far north." (*Hansen.*)

## 20660. TRIFOLIUM MONTANUM.

From Saratov province, Russia. "(No. 140.) A drought-resistant clover as found in the dry steppe region from Saratov province south to Voronezh province in the Volga River region of eastern Russia." (*Hansen.*)

## 20521 to 20795—Continued.

20661. *TRIFOLIUM AGRARIUM*.

From Moscow province, Russia. "(No. 141.) Native clover; worthy of trial for meadows, but probably not of especial promise." (*Hansen*.)

20662. *TRIFOLIUM FILIFORME*.

From Moscow, Russia. "(No. 142.) Seed of the third or fourth generation of a native clover from the Kazan province. Worthy of trial, though not especially promising. Grown by Professor Williams, of the Moscow Agricultural College." (*Hansen*.)

20663. *TRIFOLIUM PRATENSE*.

Red clover.

From Sterlitomack district, Ufa province, Volga River region, Russia. "(No. 143.) Wild red clover. At the Moscow Agricultural College the red clovers from Perm and Ufa provinces have been found to be the best forms of the Russian red clover." (*Hansen*.)

20664. *TRIFOLIUM PROCUMBENS*.

From Orel province, Volga River region, Russia. "(No. 144.) Wild clover." (*Hansen*.)

20665. *TRIFOLIUM PANNONICUM*.

Hungarian clover.

From Saratov province, Volga River region, Russia. "(No. 145.) Native clover." (*Hansen*.)

20666. *TRIFOLIUM PANNONICUM*.

Hungarian clover.

From western Europe. "(No. 146.) Commercial seed to compare with No. 145 (S. P. I. No. 20665)." (*Hansen*.)

20667. *PHLEUM BOEHRERI*.

From Moscow, Russia. "(No. 147.) This species of timothy is found native in the steppes of eastern Russia and in Siberia, and resists severe drought and cold. There is reason to hope that it will be valuable as a westward extension of the common timothy, as it is native in much of the same region where *Bromus inermis* is at home. The present seed is from the Kazan province, Volga River region, from a low-growing form; originally from a single spike. It is No. 2492 of Professor Williams's selection at the Moscow Agricultural College." (*Hansen*.)

20668. *PHLEUM BOEHRERI*.

From Moscow, Russia. "(No. 148.) This is the same as No. 147 (S. P. I. No. 20667), except that it is from a higher growing plant. This species is easily distinguished from common timothy by the fact that the spike subdivides into large subspikes when sharply bent, whereas in common timothy the spike separates evenly throughout." (*Hansen*.)

20669. *FAGOPYRUM TATARICUM*.

India wheat.

From Tomsk province, Siberia. (No. 149.)

20670. *PHLEUM BOEHRERI*.

From Moscow, Russia. "(No. 150.) This is the same as Nos. 147 and 148 (S. P. I. Nos. 20667 and 20668), except that it is the fourth generation from one plant from the Kazan province selected by Professor Williams, of the Moscow Agricultural College." (*Hansen*.)

20671. *GENISTA TINCTORIA*.

From Don province, Volga River region, Russia. "(No. 151.) Variety *depressa*. A very good pasture plant." (*Hansen*.)

20672. *OBYZA SATIVA*.

Upland rice.

From China. "(No. 152.) Considered to be a first-class variety. Sent from China to the Moscow Agricultural College." (*Hansen*.)



## 20521 to 20795—Continued.

20673. *BROMUS STERILIS*.

From Poltava province, Russia. "(No. 153.) If sown in the fall the seeds may scatter so that it becomes a very bad weed; but if sown in the spring it gives a fine grass for cutting by June and July. It seeds in August and hence should be cut early." (*Hansen.*)

20674. *ZEА MAYS*.

Corn.

From Khokand, Russian Turkestan. "(No. 154.) Indian corn grown by the Mohammedans at Khokand. This white, rather flinty corn has probably been selected for drought resistance. The kernels are small." (*Hansen.*)

20675. *PANICUM CRUS-GALLI*.

Barnyard millet.

From Ussurie province, Siberia. "(No. 155.) This is our barnyard grass as found native in the Ussurie province of the Pacific coast section of Siberia. It is considered a good forage plant there, although coarse. A Japanese form of this species has been introduced by a western seedsman as *Billion-Dollar grass*." (*Hansen.*)

20676. *PHLEUM BOEHMERI*.

From Samara province, Russia. "(No. 156.) Seed gathered by Mr. Klingen, government agronomist, in 1904. See No. 147 (S. P. I. No. 20667)." (*Hansen.*)

20677. *CHAETOCHELOA ALOPECUROIDES*.

From Ussurie province, Siberia. "(No. 157.) See No. 133 (S. P. I. No. 20653)." (*Hansen.*)

20678. *PANICUM MILIACEUM*.

Broom-corn millet.

From Manchuria. "(No. 158.) The common millet of Manchuria. The present seed was brought by a Russian student-soldier from Manchuria after the Russo-Japanese war." (*Hansen.*)

20679. *STIPA PENNATA*.

From Moscow, Russia. "(No. 159.) Variety *graffiana*. The Kirghiz Tartar horses are fond of it and will dig away the snow in winter to get at it. It is best for pasture and should be cut after the seeds, which are heavy, fall. The long-tailed seeds are hygroscopic, and when they get into the wool of a sheep they screw their way into its flesh, sometimes killing the animal. After the seeds blow away the grass is found to be nutritious. The present seed is No. 2476 of Professor Williams, of the Moscow Agricultural College, and is the first generation from the original seed gathered in 1904 from Turgai province, in western Siberia, east of Orenburg, which is on the boundary line of European Russia and Siberia." (*Hansen.*)

20680. *TRITICUM VULGARE*.

Wheat.

From Kargopol, Olonetz province, Russia. "(No. 160.) Winter wheat from Kargopol, which is about 210 miles southwest of Archangel, hence almost up to the Arctic Circle, where there is often not much snow." (*Hansen.*)

20681. *CHAETOCHELOA VIRIDIS*.

Green foxtail.

From Moscow, Russia. "(No. 161.) This is an annual grass very good for hay in the Caucasus and Siberia, but considered a weed in central Russia. In the Caucasus the natives call it 'timothy grass hay.' The present seed is the sixth or seventh generation under cultivation by Professor Williams, of the Moscow Agricultural College, of the forms of the species from Kharkov and Don provinces. At Moscow it would be regarded rather as a weed because it is not cultivated and timothy is better; in fact, timothy becomes very near being a perennial at Moscow." (*Hansen.*)



## 20521 to 20795—Continued.

## 20682. MELILOTUS OFFICINALIS.

Yellow sweet clover.

From Daghestan province, Transcaucasia, bordering on the Caspian Sea. "(No. 162.) A dwarf form; considered a very good fodder plant." (Hansen.)

## 20683. MELILOTUS ALBA (and M. OFFICINALIS).

From the banks of the Msta River, Novgorod province, Russia. "(No. 163.) Nos. 162 and 163 (S. P. I. Nos. 20682 and 20683) may prove too near the sweet clover to win favor." (Hansen.)

## 20684. ORYZA SATIVA.

Upland rice.

From Khokand province, Russian Turkestan. (No. 164.)

## 20685. PISUM ARVENSE(?).

Field pea.

"(No. 165.) A winter pea which is cultivated by the Cossacks in southwestern Russia, in the lower Volga River region, as a forage plant. In western Russia and Poland it is used for human food also, but is considered of poor quality. Sow in the fall." (Hansen.)

## 20686. STIPA CAPILLATA.

From Turgai province of the steppe section of western Siberia. "(No. 166.) Considered one of the best grasses for pasture." (Hansen.)

## 20687. AGROPYRON CRISTATUM.

From Moscow, Russia. "(No. 167.) Variety A. From seed of one plant selected for its large seeds by Professor Williams from his No. 2637 at the Moscow Agricultural College. A good grass from the dry steppes." (Hansen.)

## 20688. AGROPYRON CRISTATUM.

From Moscow, Russia. "(No. 168.) The original seed from which No. 167 (S. P. I. No. 20687) was selected, originally from Don province, southern Volga River region, Russia. A good grass from the dry steppes." (Hansen.)

## 20689. AGROPYRON CYLINDRICUM.

From Moscow, Russia. "(No. 169.) One of the best grasses from Don province, southern Volga River region, Russia. Usually a biennial, but sometimes lasts three years. Mow before it gets woody. This is the second generation from the original seed of one plant and is No. 2643 from Professor Williams, of the Moscow Agricultural College." (Hansen.)

## 20690. AGROPYRON CRISTATUM.

From Moscow, Russia. "(No. 170.) Variety B. The same as No. 167 (S. P. I. No. 20687); from one plant, but with smaller seed." (Hansen.)

## 20691. AGROPYRON CRISTATUM.

From Moscow, Russia. "(No. 171.) Variety E. The same as No. 167 (S. P. I. No. 20687); from seed of one plant." (Hansen.)

## 20692. AGROPYRON CRISTATUM.

From Moscow, Russia. "(No. 172.) Variety C. The same as No. 167 (S. P. I. No. 20687)." (Hansen.)

## 20693. CHAETOCHLOA VIRIDIS.

Green foxtail.

From Tomsk province, Siberia. "(No. 173.) This is considered a weed at Moscow, Russia, but makes a very good hay as found in the Caucasus and in Siberia. This sample is the native form from Tomsk province and is a mixture of elementary species." (Hansen.)

## 20521 to 20795—Continued.

## 20694. CHAETOCHELOA ALOPECUROIDES.

From Khokand, Russian Turkestan. "(No. 174.) This millet makes very good hay, and cattle are fond of the seeds. It is also used by the natives as food. As found wild, there are two forms, one of yellow and one of red seed, and the two forms should be separated before sowing." (Hansen.)

## 20695. CHAETOCHELOA ALOPECUROIDES.

From Ussurie province, Pacific coast section, Siberia. "(No. 175.) Native form. See No. 174 (S. P. I. No. 20694)." (Hansen.)

## 20696. PHASEOLUS RADIATUS.

Mung bean.

From Khokand, Russian Turkestan. "(No. 176.) Native *Masch*. A native legume." (Hansen.)

## 20697. PANICUM CRUS-GALLI.

Barnyard millet.

From north China. "(No. 177.) Native name *Pisa*. See No. 155 (S. P. I. No. 20675)." (Hansen.)

## 20698. PHASEOLUS RADIATUS.

Mung bean.

From Ussurie province, Pacific coast section, Siberia. "(No. 178.) Chinese name *Lango*. A native legume." (Hansen.)

## 20699. GLYCINE HISPIDA.

Soy bean.

From Ussurie province, Pacific coast section, Siberia. "(No. 179.) From the farm of Mr. Fick, near Nicolsk." (Hansen.)

## 20700. CHAETOCHELOA sp.

From Ussurie province, Siberia. "(No. 180.) This is one of the best forage plants of the Ussurie province of the Pacific coast section of Siberia, and was used freely for the Russian horses in the Russo-Japanese war. The native name is *Choomeeza*. The sample is a mixture of red-yellow seeds, with the yellow largely predominating." (Hansen.)

## 20701. CHAETOCHELOA ALOPECUROIDES.

From Manchuria. "(No. 181.) Native name *Hoon-kood-zha*. A yellow-seeded variety of millet brought from Manchuria by a Russian student-soldier in the Russo-Japanese war." (Hansen.)

## 20702. ANDROPOGON SORGHUM.

Sorghum.

From Jahzavan, Marghilan district, Russian Turkestan. "(No. 182.) Native name *Joo-gar-ah*. A drought-resistant forage plant especially adapted to hot, dry climates. See No. 190 (S. P. I. No. 20710)." (Hansen.)

## 20703. PHASEOLUS ANGULARIS.

Adzuki bean.

From south Ussurie, Pacific coast section, Siberia. "(No. 183.) *Weido*. A leguminous forage plant." (Hansen.)

## 20704. PANICUM CRUS-GALLI.

Barnyard millet.

From Manchuria. "(No. 184.) Native name *Zan-Zah*. A good forage plant brought from Manchuria after the Russo-Japanese war." (Hansen.)

## 20705. ORYZA SATIVA.

Upland rice.

From Manchuria. "(No. 185.) Native name *Zoo-za-mie*. Its northern origin makes it worthy of attention on the northern borders of our rice belt." (Hansen.)

## 20706. ANDROPOGON SORGHUM.

Sorghum.

From south Ussurie, Pacific coast section, Siberia. "(No. 186.) *Gaolan*." (Hansen.)

## 20521 to 20795—Continued.

20707. *ASTRAGALUS VESICARIUS*.

From Kharkov, southern Russia. "(No. 187.) A wild fodder plant." (Hansen.)

20708. *ASTRAGALUS FALCATUS*.

From Don province, southern Volga River region, Russia. "(No. 188.) A good forage plant from the dry steppes." (Hansen.)

20709. *PHILEUM ALPINUM*.

Mountain timothy.

From Moscow, Russia. "(No. 189.) A promising species of native timothy from the dry steppes of the Turgai province of western Siberia. The plant grows ordinarily as high as timothy. This is No. 2491 of Professor Williams, of the Moscow Agricultural College, who finds it has already shown a great improvement in size of seed, the seed as found in its native habitat being rather small. The present stock is originally from a single seed." (Hansen.)

20710. *ANDROPOGON SORGHUM*.

Sorghum.

From Jahzavan, Marghilan province, Russian Turkestan. "(No. 190.) One of the best varieties; called *Ak-juh-gar-ah* by the native Mohammedans. These central Asiatic sorghums have dense heads of round, white kernels which are much used for feeding stock. The heads bend sharply in the stalk, so that they point downward when mature. Promising for dry hot climates where Indian corn suffers from hot winds. See No. 182 (S. P. I. No. 20702)." (Hansen.)

20711. *MEDICAGO SATIVA*.

Alfalfa.

From Moscow, Russia. "(No. 191.) *Turkestan*. The present sample is originally from Tashkent, the capital of Russian Turkestan, grown at Moscow, and originally the seed came from one plant. At the Moscow Agricultural College, Professor Williams has found this strain very hardy, very productive, and a beautiful plant, while the French lucern, by which is meant the ordinary south European or North African form of the species, winterkills at Moscow." (Hansen.)

20712. *MEDICAGO DENTICULATA*.

Bur clover.

From Moscow, Russia. "(No. 192.) This makes a good forage plant in Italy, but is worthless at Moscow; originally from Italy." (Hansen.)

20713. *MEDICAGO DENTICULATA*.

Bur clover.

From Don province, lower Volga River region, southeastern European Russia. "(No. 193.) A good native forage plant. The seed pods are very spiny, so are found very undesirable for sheep pastures, as the spines stick to the wool." (Hansen.)

20714. *MEDICAGO MEDIA*.

Sand lucern.

From Moscow, Russia. "(No. 194.) Originally from a single plant growing wild in the Voronesh province of the central Volga River region, Russia. It is a natural hybrid of *M. falcata* and *M. sativa* and found wild in the dry steppes. This spontaneous or natural hybrid will sometimes have blue flowers on one branch, yellow on another, and sometimes both colors on the same branch. The present sample is the fourth generation raised by Professor Williams at the Moscow Agricultural College and is his No. 571×572." (Hansen.)

20715. *MEDICAGO MEDIA*.

Sand lucern.

From Moscow, Russia. "(No. 195.) The same source as No. 194 (S. P. I. No. 20714), and also the fourth generation from a single plant found wild in the dry steppes of the Voronesh province. The present strain bears yellow flowers; in fact, it is almost *M. falcata* in its characteristics and is not as heavy a yielder as Nos. 194 and 196 (S. P. I. Nos. 20714 and 20716)." (Hansen.)

## 20521 to 20795—Continued.

20716. *MEDICAGO MEDIA*.

Sand lucern.

From Moscow, Russia. "(No. 196.) Originally from a single plant found wild in the dry steppes of the Voronesh province, eastern Russia, and is now the fourth generation under cultivation. A beautiful plant, very hardy, very productive, and with black-green flowers." (*Hansen*.)

20717. *MEDICAGO FALCATA*.

Yellow lucern.

From Kharkof province, southeastern Russia. "(No. 197.) A wild form." (*Hansen*.)

20718. *MEDICAGO FALCATA*.

Yellow lucern.

From Omsk, western Siberia. "(No. 198.) The Siberian alfalfa as found wild at Omsk. In my Siberian investigations I learned that as found wild upon the Siberian steppes this is a valuable forage plant in regions where the mercury freezes sometimes without snow; that it is green very early in the spring; that it endures severe drought; that it does well upon soils underlaid with hardpan; that it is considerably resistant to alkali; that it flourishes where common alfalfa from Europe winterkills; that the Siberian form of this species is so much superior to the European form in hardness and other desirable characteristics that to go by the botanical name only is very misleading. The present sample is from hay cut from wild plants before my arrival." (*Hansen*.)

20719. *MEDICAGO FALCATA*.

Yellow lucern.

From Omsk, Siberia. "(No. 199.) This sample I picked from wild plants in the dry steppes near Omsk late in the fall when there was a little snow on the ground. I found the plants held their own perfectly with other native plants in the compact prairie or steppe sod. Omsk is in latitude 55°." (*Hansen*.)

20720. *MEDICAGO FALCATA*.

Yellow lucern.

From Irkutsk, on Lake Baikal, eastern Siberia. "(No. 200.) Picked from a load of wild hay brought to the market at Irkutsk by the Buriats (native Mongolians)." (*Hansen*.)

20721. *MEDICAGO FALCATA*.

Yellow lucern.

From Samara province, Russia. "(No. 201.) As found wild in Samara province. See No. 206 (S. P. I. No. 20726)." (*Hansen*.)

20722. *MEDICAGO FALCATA*.

Yellow lucern.

From Saratov province, central Volga River region of eastern Russia, adjoining Siberia. "(No. 202.) As found wild in Saratov province." (*Hansen*.)

20723. *PRUNUS NANA*.

Russian almond.

From Omsk, Siberia. "(No. 203.) As found native at Omsk." (*Hansen*.)

20724. *MEDICAGO FALCATA*.

Yellow lucern.

From Tomsk, Siberia. "(No. 204.) As found wild at Tomsk." (*Hansen*.)

20725. *MEDICAGO FALCATA*.

Yellow lucern.

From Moscow, Russia. "(No. 205.) Sample of the third generation under cultivation by Professor Williams, of the Moscow Agricultural College, of seed obtained from wild plants in Don province of the lower Volga River region of southeastern Russia." (*Hansen*.)

20726. *MEDICAGO FALCATA*.

Yellow lucern.

From Samara province, Russia. "(No. 206.) Another sample of seed from wild plants of this promising forage plant. See No. 201 (S. P. I. No. 20721)." (*Hansen*.)

## 20521 to 20795—Continued.

20727. *ASTRAGALUS FALCATUS*.

From Kherson province, Russia. "(No. 207.) A native leguminous forage plant from the province of Kherson." (Hansen.)

20728. *MELILOTUS OFFICINALIS*.

**Yellow sweet clover.**

From Donskaya district on the north coast of the Black Sea, Russia. "(No. 208.) This is perhaps variety *macrorhiza*. Grows from 7 to 9 feet in height. Seed from native plants. Used as a honey plant, but the odor is too strong for a good forage plant. It is evident that the sweet clover has possibilities as a forage plant, but that considerable work in plant breeding appears necessary before it will find wide popularity." (Hansen.)

20729. *STIPA PENNATA*.

From Turgai province, western Siberia. (No. 209.)

20730. *ONOBRYCHIS ONOBRYCHIS*.

**Sainfoin.**

From Samara province, Russia. "(No. 210.) A leguminous forage plant as found wild in the dry steppes." (Hansen.)

20731. *PYRUS SINENSIS*.

**Pear.**

From St. Petersburg, Russia. "(No. 211.) *Pyrus ussuriensis*; this is the same as *P. sinensis*, but it is worth while to make a distinction. This sample is from the original plants brought by Maximowicz from Ussurie province, Siberia, growing at St. Petersburg, where it is perfectly hardy, while the Chinese form winterkills. The fruits are bergamotte shaped, about 2 inches in diameter. This Siberian form of the pear is probably the hardiest known." (Hansen.)

20732. *ASTRAGALUS HYPOGLOTTIS*.

From Tomsk province, Siberia. "(No. 212.) A wild leguminous forage plant; considered of value for forage." (Hansen.)

20733. *TRIFOLIUM* sp.

**Clover.**

From Omsk, Siberia. "(No. 213.) The wild red clover as found native at Omsk. Here it occurs sparingly in the steppes." (Hansen.)

20734. *HALIMODENDRON ARGENTEUM*.

**Salt tree.**

From Djarkent, northern Russian Turkestan, on the edge of China. "(No. 214.) A native, silver-leaved, small tree found in dry places." (Hansen.)

20735. *TRIFOLIUM MONTANUM*.

From Tomsk province, Siberia. "(No. 215.) A clover native on dry steppes. The large seeds of this wild Siberian clover are noteworthy. It is considered a good forage plant." (Hansen.)

20736. *TRIFOLIUM ALPESTRE*.

**Clover.**

From Samara province, northern Volga River region, eastern Russia. "(No. 216.) A promising wild clover from the dry steppes." (Hansen.)

20737. *TRIFOLIUM PRATENSE*.

**Red clover.**

From Sarapul, Viatka province, northern Volga River region, eastern Russia. "(No. 217.) Wild red clover as found in the dry steppes at Sarapul, about 56° 25' N. lat." (Hansen.)

20738. *FESTUCA OVINA*.

**Sheep's fescue.**

From Samara province, Russia. "(No. 218.) Native fescue grass found wild." (Hansen.)



## 20521 to 20795—Continued.

20739. *ASTRAGALUS GLYCYPHYLLOS*.

From Tomsk province, Siberia. "(No. 219.) A leguminous forage plant as found wild." (*Hansen.*)

20740. *POA PRATENSIS*.

Kentucky bluegrass.

From Samara province, northern Volga River region, eastern Russia. "(No. 220.) A good grass; found wild." (*Hansen.*)

20741. *AGROPYRON REPENS*.

Couch-grass.

From Samara province, Russia. "(No. 221.) The wild white clover of Samara." (*Hansen.*)

20742. *MELILOTUS ALBA*.

Sweet or Bokhara clover.

From Samara province, Russia. "(No. 222.) As found wild in Samara." (*Hansen.*)

20743. *ONOBRYCHIS ONOBRYCHIS*.

Sainfoin.

From Omsk, Siberia. "(No. 223.) A leguminous forage plant as found wild on the dry steppes." (*Hansen.*)

20744. *OROBUS LUTEUS*.

From Tomsk province, Siberia. "(No. 224.) A leguminous forage plant, considered valuable for forage, from the Beryl Valley of the Altai Mountain region, Tomsk province. It is found up to a height of 2,000 meters." (*Hansen.*)

20745. *VICIA* sp.

From Vladivostok, Siberia. "(No. 225.) Seed of a wild leguminous forage plant found in wild hay brought to the Mongolian hay market at Vladivostok. Value not determined." (*Hansen.*)

20746. *TRIFOLIUM* sp.

Clover.

From Irkutsk, Siberia. "(No. 226.) Seed of a wild clover gathered when the plants were frozen on moist soil near Irkutsk." (*Hansen.*)

20747. *TRIFOLIUM* sp.

Clover.

From Samara province, Russia. "(No. 227.) A wild red clover allied to the common red clover but not of the same species." (*Hansen.*)

20748. *FESTUCA RUBRA*.

Red fescue.

From Samara province, Russia. "(No. 228.) A good grass found wild in the dry steppes." (*Hansen.*)

20749. *PANICUM MILIACEUM*.

Broom-corn millet.

From Turgai province, Siberia. "(No. 229.) Native name *Salma-bastara*. A large-seeded yellow millet. A promising variety, as it is native on dry steppes." (*Hansen.*)

20750. *OROBUS LATHYROIDES*.

From Tomsk province, Siberia. "(No. 230.) A wild leguminous forage plant." (*Hansen.*)

20751. *PANICUM MILIACEUM*.

Broom-corn millet.

From Turgai province, Siberia. "(No. 231.) Native name *Kar-sak-ajak-tara*. This appears to be much the same as No. 229 (S. P. I. No. 20749). Both are promising, as they are native on dry steppes." (*Hansen.*)

20752. *PHLEUM BOEHMERI* Wibel.

From Samara province, Russia. "(No. 232.) Native timothy as found wild in the dry steppes." (*Hansen.*)



## 20521 to 20795—Continued.

## 20753. PANICUM MILIACEUM.

Broom-corn millet.

From Turgai province, western Siberia. "(No. 233.) Native name *Kunak-tara*. A wild millet. Much the same as Nos. 229 and 231 (S. P. I. Nos. 20749 and 20751), but with smaller seeds." (Hansen.)

## 20754. PANICUM MILIACEUM.

Broom-corn millet.

From Turgai province, western Siberia. "(No. 234.) Native name *Kisil-ala-tara*. The seeds of this wild millet are large, mostly white, ripening to yellow. All the native millets from Turgai province are used for porridge by the natives. This common dish is called 'Kasha' by the natives." (Hansen.)

## 20755. PANICUM MILIACEUM.

Broom-corn millet.

From Turgai province, western Siberia. "(No. 235.) Native name *Yak-tara*. A wild millet, the seeds of which are large and white." (Hansen.)

## 20756. VICIA sp.

Vetch.

From Irkutsk, on Lake Baikal, eastern Siberia. "(No. 236.) A wild legume common in the wild hay brought in by the Buriats to Irkutsk." (Hansen.)

## 20757. VICIA sp.

Vetch.

From Omsk, Siberia. "(No. 237.) A wild leguminous forage plant. Value undetermined but considered promising." (Hansen.)

## 20758. BROMUS INERMIS.

Smooth brome-grass.

From Besentsuk, Samara province, Russia. "(No. 238.) Found wild near the experiment station at Besentsuk, upper Volga River region. Native of dry steppes." (Hansen.)

## 20759. BROMUS ERECTUS.

Upright brome-grass.

From Besentsuk, Samara province, Russia. "(No. 239.) A native grass of the dry steppes." (Hansen.)

## 20760. AGROPYRON CRISTATUM.

From Samara province, Russia. "(No. 240.) A promising grass from the dry steppes." (Hansen.)

## 20761. VITIS AMURENSIS.

Grape.

From northern Manchuria. "(No. 241.) The wild grape of northern Manchuria as found along the line of the Siberian railway." (Hansen.)

## 20762. TRIFOLIUM ALPESTRE.

From Sarapul, Russia. "(No. 242.) A wild clover found native on the dry steppes in Viatka province, Russia. This seed is from Sarapul, which is about 56° 25' N. lat. Promising as a clover resistant to severe cold and drought." (Hansen.)

## 20763. AGROPYRON DESERTOEURUM.

From Samara province, Russia. "(No. 243.) A promising wild grass from the dry steppes." (Hansen.)

## 20764. PINUS CEMBRA.

From Irkutsk, Siberia. "(No. 244.) The native pine of Siberia." (Hansen.)

## 20765. PANICUM MILIACEUM.

Broom-corn millet.

From Turgai province, Siberia. "(No. 245.) Native name *Sara-tara*. Native millet from the dry steppes; the large white seeds are used for human food. Considered to be a very good variety." (Hansen.)

## 20521 to 20795—Continued.

20766. *OROBUS LUTEUS*.

From Omsk, Siberia. "(No. 246.) A promising native leguminous forage plant found wild." (*Hansen.*)

20767. *PANICUM MILIACEUM*.

Broom-corn millet.

From Tugai province, Siberia. "(No. 247.) A yellow-seeded millet, native to dry steppes. Taken out of No. 235 (S. P. I. No. 20765)." (*Hansen.*)

20768. *PANICUM MILIACEUM*.

Broom-corn millet.

From Turgai province, Siberia. "(No. 248.) A yellow-seeded millet, native to dry steppes. Taken out of No. 245 (S. P. I. No. 20765)." (*Hansen.*)

20769. *CUCUMIS MELO*.

Muskmelon.

From the Imperial Botanical Garden, St. Petersburg, Russia. "(No. 249.) Gathered by Dr. Kochanovsky in 1906 in Mongolia. This variety ought to be of value in the north." (*Hansen.*)

20770. *LATHYRUS MAGELLANICUS*.

From Lago San Martin, Patagonia, South America. "(No. 250.) Seed gathered by A. Thesleff in a Swedish scientific expedition and sent to the Botanical Gardens at Helsingfors, Finland, Russia, in 1905. A native forage plant of Magellan Straits." (*Hansen.*)

20771. *LATHYRUS NERVOSUS*.

From Patagonia, South America. "(No. 251.) Seed gathered by A. Thesleff in a Swedish scientific expedition and sent to the Botanical Gardens at Helsingfors, Finland, Russia, in 1905." (*Hansen.*)

20772. *TRIFOLIUM PRATENSE*.

Red clover.

From Christiania, Norway. "(No. 252.) The Toten clover, which is cultivated over large areas of Norway on account of its extreme hardiness. It is descended from a wild plant found at Toten, Norway, by a peasant about 1850. This form has sometimes been called *Trifolium pratense norvegica*. The present sample is No. 442 of Mr. A. Michelet, seedsman, Christiania, Norway." (*Hansen.*)

20773. *TRIFOLIUM PRATENSE*.

Red clover.

From Christiania, Norway. "(No. 253.) The agronomists of Norway claim that the native red clover is hardier than that introduced from America and that the plant is much smoother. I found the same claim as to greater freedom from hairiness of plant, causing the hay to be more free from dust, made for the native red clovers of Finland and Russia. No. 439 of Mr. A. Michelet." (*Hansen.*)

20774. *TRIFOLIUM HYBRIDUM*.

Alsike clover.

From Christiania, Norway. "(No. 254.) The Norwegian form of the alsike clover. No. 252 of Mr. A. Michelet." (*Hansen.*)

20775. *MEDICAGO SATIVA*.

Alfalfa.

From Christiania, Norway. "(No. 255.) A hardy, vigorous, broad-leaved form of alfalfa found in Norway by Mr. O. Malthe. The present variety was selected a few years ago by Mr. Malthe from a patch of alfalfa cultivated in Norway for a score of years. Considered to be a promising mutation." (*Hansen.*)

20776. *LATHYRUS SYLVESTRIS*.

From Christiania, Norway. "(No. 256.) A hardy leguminous forage plant as found native a score of years ago in the Romerike Valley, a few miles north of Christiania." (*Hansen.*)

## 20521 to 20795—Continued.

20777. *PINUS CEMBRA*.

From Tomsk, Siberia. "(No. 257.) The common pine over a large section of central Siberia. The large seeds are a favorite dainty for dessert on Siberian tables." (*Hansen.*)

20778. *PYRUS INTERMEDIA*.

From Helsingfors, Finland. "(No. 258.) A native ornamental tree. The bright red berries are borne in great abundance and resemble those of a mountain ash." (*Hansen.*)

20779. *BERBERIS* sp.

Barberry.

From Djarkent, northern Russian-Turkestan, on the edge of China. "(No. 259.) A large-berried variety remarkable for the intense dark red color of the juice. It may prove to be *Berberis heteropoda*, which is a market berry in Turkestan." (*Hansen.*)

20780. *PYRUS SINENSIS*.

Japanese pear.

From Harbin, northern Manchuria. "(No. 260.) This pear is of poor quality, but juicy, and is representative of the pears of northern China and Manchuria." (*Hansen.*)

20781. *SAMBUCUS RACEMOSA*.

From Helsingfors, Finland. "(No. 261.) The native red-berried elder." (*Hansen.*)

20782. *RIBES RUBRUM*.

Red currant.

From Bodoe, Norway. "(No. 262.) The wild red currant from Bodoe, which is in 67° 20' N. lat., on the coast of Norway." (*Hansen.*)

20783. *RUBUS CHAMAEMORUS*.

Cloud berry.

From Bodoe, Norway. "(No. 263.) The wild raspberry here." (*Hansen.*)

20784. *RUBUS IDAEUS*.

European raspberry.

From Bodoe, Norway. "(No. 264.) A yellow-fruited form of the wild raspberry." (*Hansen.*)

20785. *FRAGARIA VESCA*.

Strawberry.

From Bodoe, Norway. "(No. 265.) The wild strawberry from north of the Arctic Circle." (*Hansen.*)

20786. *HORDEUM VULGARE*.

Barley.

From St. Petersburg, Russia. "(No. 266.) *Jarenskianum* × (*pallidum* × *lapponicum*), No. 448 of Dr. Robert Regel, of the Bureau of Applied Botany, Department of Agriculture, St. Petersburg. This is a representative of the barley grown on the northern boundary of barley culture in the provinces of Vologda and Archangel. Of special promise for Alaska and regions where the growing period is short." (*Hansen.*)

20787. *ALOPECURUS PRATENSIS*.

Meadow foxtail.

From Helsingfors, Finland. "(No. 267.) A valuable grass highly regarded as making hay of as good quality as timothy. Suitable for moist soil. Finland exports an immense quantity of this, which is probably the best native grass, to other countries." (*Hansen.*)

20788. *TRIFOLIUM PRATENSE*.

Red clover.

From Helsingfors, Finland. "(No. 268.) Native red clover of Finland. Claimed to be hardier than the red clover from America and a smoother plant." (*Hansen.*)

## 20521 to 20795—Continued.

20789. *PHLEUM PRATENSE*.

Timothy.

From Finland. "(No. 269.) Native timothy of Finland. Timothy is found both in North America and Europe; in Europe it extends up to and north of the Arctic Circle." (*Hansen.*)

20790. *TRIFOLIUM PRATENSE*.

Red clover.

From Perm province, European Russia. "(No. 270.) The Russian form of red clover." (*Hansen.*)

20791. *TRIFOLIUM PRATENSE*.

Red clover.

From Olonetz province, Russia. "(No. 271.) Variety *pallidum*. Wild red clover, promising for very cold, rather moist regions." (*Hansen.*)

20792. *LOTUS CORNICULATUS*.

Bird's-foot clover.

From Samara province, Russia. "(No. 272.) A wild leguminous forage plant as found native in Samara province." (*Hansen.*)

20793. *RAPHANUS SATIVUS*.

Radish.

From Kioto, Japan. "(No. 273.) *Daikon*. Seed of a large, roundish radish. This radish appears to be a common article of food in Japan, as I saw it in the markets of Tokio. It attains a size of 8 inches in diameter. However, the quality is said to be very poor by European residents in Japan." (*Hansen.*)

20794. *RAPHANUS SATIVUS*.

Radish.

From Kioto, Japan. "(No. 274.) A large, long, white variety." (*Hansen.*)

20795. *CELOSIA* sp.

Cockscomb.

From Kioto, Japan. "(No. 275.) A cockscomb with large, bright red flowers of the ostrich-feather type, grown in the flower gardens at Kioto. Seed purchased in the bazaar at Kioto." (*Hansen.*)

## 20796 to 20798.

From Manchuria and China. Received through Mr. Frank N. Meyer, agricultural explorer, April 3, 1907.

20796. *HORDEUM VULGARE*.

Barley.

From Mukden, Manchuria. "(No. 720a.) *Black* barley. Chinese name *Gai ta mi*. Said to be used sprouted as an addition to sweetmeats. A rather rare variety." (*Meyer.*)

20797. *GLYCINE HISPIDA*.

Soy bean.

From Shanghai, China. "(No. 722a.) *Black* soy beans obtained through Dr. S. P. Barchet, of the U. S. consulate at Shanghai. These beans come from Chin-hua-fu, Chekiang province, and are used apparently as a second crop on low-lying rice fields, and may as such be very valuable for the Southern States. They are mainly used as a food for domestic animals. It seems that they are sown broadcast after the sowing of the rice crop; specific details are not obtainable just now." (*Meyer.*)

20798. *GLYCINE HISPIDA*.

Soy bean.

From Shanghai, China. "(No. 723a.) *Brown* soy beans obtained through Dr. S. P. Barchet, of the U. S. consulate at Shanghai. These beans come from Chin-hua-fu, Chekiang province, and are used apparently as a second crop on low-lying rice fields, and may as such be very valuable for the Southern States. They are mainly used as a food for domestic animals." (*Meyer.*)

**20800. PHOENIX DACTYLIFERA.****Date.**

From Washington, D. C. Received through the California Fruit Company, April 8, 1907.

"*Deglet Noor* dates for the propagation of seedling date orchards in the Southwest." (*Swingle*.)

**20801 to 20805. RHEUM spp.**

From Cornhill, Liverpool, England. Received from The Cooperative Bees (Limited) through Mr. David Fairchild, April 1, 1907.

**20801. RHEUM COMPACTUM.****20804. RHEUM TATARICUM.****20802. RHEUM OFFICINALE.****20805. RHEUM ACUMINATUM.****20803. RHEUM MACROCARPUM.**

For cooperative experimental work on production of new rhubarb varieties with Mr. J. B. Wagner, Pasadena, Cal. (*Fairchild*.)

**20806. SOLANUM TUBEROSUM.****Potato.**

From Erfurt, Germany. Received from Messrs. Haage & Schmidt, April 6, 1907.

*München*. "A potato highly esteemed in Germany and by Americans abroad for its fine texture and good flavor. It is about the size of a full-grown mouse and has much the appearance of one, whence the name. Its shape and firmness make it very desirable for salads.

"Imported on request of several parties to determine whether it will retain its high quality after several generations in this country." (*Fischer*.)

**20808. CANARIUM COMMUNE.****Tropical almond.**

From Buitenzorg, Java, Dutch East Indies. Presented by Dr. M. Treub, director of the Department of Agriculture, April 2, 1907.

"There is probably not a more beautiful avenue tree in the world. The most beautiful avenue in the famous Gardens of Buitenzorg is of this species, and for this purpose alone it is worthy of the consideration of the landscape gardeners of the western Tropics. Avenues of this tree should be planted in Porto Rico, Cuba, and especially on the Canal Zone.

"Aside from its value as an avenue tree, its nuts have found a use in the Dutch East Indies in the preparation of a substitute for mothers' milk. The researches of Dr. W. G. Boorsma have shown this to be of unusual value for infants.

"To prepare the emulsion which is the principal ingredient of this baby food, the meat of the nut is removed from the shell, and also the thin skin which surrounds it, by putting it in hot water. These kernels are put in a mortar with an equal weight of milk sugar and are pounded up together into a dough-like mass, which is gradually mixed with a larger and larger quantity of water. The grinding of the kernels is assisted by the hard crystals of the milk sugar. After filtering through a cloth which has been washed in boiling water, the mass of kernels and sugar are wet with water again, and again pressed. This process may be repeated several times. The wet emulsion is added to cows' milk and the mixture sterilized. The oily layer which separates itself and lies on top of the sterilized preparation can be again mixed with the milk by vigorous shaking until only a few flocculent masses remain attached to the sides of the flask.

"See Dr. W. G. Boorsma, in 'Oorspronkelijke Bijdragen.—Lahmann's 'plantaardige melk' en kanarizaden-emulsie als toevoegsel tot de melk voor zuigelingen. (Geneeskundig Tijdschrift voor Ned.-Indië Deel, XLI, afl. 4.) Batavia Jav. Boekh. & Drukkerij, 1901. Also in kanarizaden-emulsie als toevoegsel tot voor zuigelingen bestemde koemelk. (Geneeskundig Tijdschrift voor Ned.-Indië Deel, XLV, afl. 1.) Batavia Jav. Boekh. & Drukkerij, 1905. As species of *Canarium* occur in the Philippines, this use of their seed should be called to the attention of Americans in Manila.

"This new vegetable fat is, furthermore, perhaps worthy of the attention of American pharmacologists." (*Fairchild*.)



**20809 to 20812.**

From Buenos Aires, Argentina. Presented by the Buenos Aires Botanical Garden, through Mr. C. V. Piper, April 6, 1907.

**20809.** LATHYRUS NERVOSUS.

**20811.** PASPALUM PARANENSE.

**20810.** LATHYRUS SERICEUS.

**20812.** STIPA ICHU.

**20814. CUCURBITA MAXIMA.****Squash.**

From Venice, Italy. Received through Dr. Erwin F. Smith, of this Department, April 5, 1907.

"Collected in September, 1906. A large squash with thick flesh and small cavity; of good quality and the best variety seen in the streets of Venice, where it is sold baked in halves." (*Smith.*)

**20837. CUCUMIS MELO.****Muskmelon.**

From Chios, Turkey. Presented by Mr. N. J. Pantelides. Received February, 1907.

*Khios.*

**20838 to 20842.**

From Shanghai, China. Received through Mr. Frank N. Meyer, agricultural explorer, April 9, 1907.

A collection of cuttings and plants.

**20838 and 20839.** VIBURNUM ODORATISSIMUM.

"Nos. 646 and 647. Cuttings of a beautiful, large-leaved, evergreen shrub, growing to a height of 15 feet, bearing many clusters of white flowers. A very fine shrub for the mild-wintered regions of the United States. Especially good for cemeteries and parks. Obtained from Mr. D. MacGregor, superintendent of the parks of Shanghai." (*Meyer.*)

**20840 and 20841.** OSTERDAMIA PUNGENS.

"Nos. 648 and 649. A grass used for lawns in the parks and open places in Shanghai. It is the only grass that can be kept green during the heat and drought of midsummer. It might be an excellent grass for gardens and parks in the southern United States. Obtained from Mr. D. MacGregor, superintendent of the parks of Shanghai." (*Meyer.*)

**20842.** BAMBUSA sp.

**Bamboo.**

"No. 650. Shoots purchased in the vegetable market at Shanghai, where the plant is a favorite food with the Chinese. It is generally eaten boiled and sliced with rice, or in soups, although it is even better if fried in pork fat." (*Meyer.*)

**20846. XANTHOSOMA SAGITTIFOLIUM.****Yautia.**

From Bahama Islands, British West Indies. Received through Mr. P. J. Wester, special agent, April 12, 1907.

"*Eddie*, the name by which this large variety is known in the Bahamas." (*Wester.*)

**20854 to 20862.**

From Harbin, Manchuria. Received through Mr. F. N. Meyer, agricultural explorer, April 11, 1907.

A miscellaneous collection of seeds.

**20854.** GLYCINE HISPIDA.

**Soy bean.**

"(No. 675a, Dec. 15, 1906.) Green soy beans; Chinese name *Ta shing toa*. These are boiled and used as food, and the sprouts of the germinated beans are also used as a vegetable throughout the winter months." (*Meyer.*)



## 20854 to 20862—Continued.

20855. CANNABIS SATIVA.

Hemp.

"(Nos. 676a and 677a, Dec. 19, 1906.) Purchased in the market in Harbin, where the seeds are sold as bird food." (Meyer.)

20856. CHAETOCHLOA ITALICA.

Siberian millet.

"(No. 678a, Dec. 19, 1906.) Chinese name *Hong shu tse*. It is used by the Chinese as food, being boiled and eaten in the form of a paste or as a porridge. Used by the Russians as a bird seed." (Meyer.)

20857. PANICUM MILIACEUM.

Broom-corn millet.

"(No. 679a, Dec. 19, 1906.) Chinese name *Pai shu tse*. It is used by the Chinese the same as the preceding number, and is also used by the Russians as a bird seed." (Meyer.)

20858. TRITICUM VULGARE.

Wheat.

"(No. 680a, Nov. 30, 1906.) Purchased near Ninguta. It is considered a very good wheat. It consists, however, of many varieties grown together; hence, many different types may appear." (Meyer.)

20859. FAGOPYRUM ESCULENTUM.

Buckwheat.

"(No. 681a, Nov. 30, 1906.) A large variety of buckwheat grown by the Chinese on the sterile mountain sides near Ninguta." (Meyer.)

20860. PAPAVER SOMNIFERUM.

Opium poppy.

"(No. 683a, Dec. 19, 1906.) A black poppy used in confectionery and as a bird seed." (Meyer.)

20861. PAPAVER SOMNIFERUM.

Opium poppy.

"(No. 684a, Dec. 19, 1906.) A white poppy used in confectionery and as a bird seed." (Meyer.)

20862. BETULA sp.

Birch.

From *Corvuskaya*, Siberia. "(No. 686a, Nov. 24, 1906.) A shrubby birch growing 5 to 8 feet tall with gray branches. Useful as a park shrub in northern regions." (Meyer.)

## 20863 to 20864.

From Huimanguillo, Tabasco, Mexico. Presented by Mr. A. G. Weiss, through Mr. O. W. Barrett, April 13, 1907.

20863. IPOMOEA BATATAS.

Sweet potato.

*Red Camote.*

20864. XANTHOSOMA SAGITTIFOLIUM.

Yautia.

*Macal.* Red, smooth variety.

20865. SECHIU EDULE.

Chayote.

From Huimanguillo, Tabasco, Mexico. Presented by Mr. A. G. Weiss, April 12, 1907.

Two small smooth fruits and one large prickly fruit.

## 20867 to 20869.

From Victoria, Tamaulipas, Mexico. Presented by Dr. Edward Palmer, April 15, 1907.

20867. SECHIU EDULE.

Chayote.

Large, spiny, yellowish fruits.

**20867 to 20869—Continued.****20868. PHYSALIS IXOCARPA.****Ground cherry.**

A large-fruited variety.

**20869. FICUS sp.****Wild fig.**

Small fruits.

**20870 to 20871. NEPHELIUM spp.**

From Kuching, Sarawak. Presented by Mr. John Hewitt, curator of the Sarawak Museum, April 18, 1907.

**20870. Buoh Mo. White.****20871. Buoh Mo. Red.**

"Possibly these are *N. formatum*." (Hewitt.)

**20873. ANDROPOGON SORGHUM.****Sorghum.**

From Bombay, Kirkee, India. Presented by Prof. G. A. Gammie, economic botanist, Ganeshkhind Botanical Gardens, through Mr. David Fairchild, April 10, 1907.

"*Juar*. Said to be a dwarf variety." (Gammie.)

**20876. CASTILLA sp.****Rubber.**

From Ancon, Canal Zone, Panama. Received through Mr. Henry F. Schultz, April 19, 1907.

**20877. ASPARAGUS sp.****Asparagus.**

From Cape Town, South Africa. Received from Mr. J. S. Henkel, Acting Conservator of Forests, Western Conservancy, March 19, 1907.

Imported for experiments in the breeding of disease-resistant strains of asparagus.

**20879. PHASEOLUS sp.**

From Miami, Florida. Received through Mr. W. F. Wight, of the Bureau of Plant Industry, April 22, 1907.

"Collected on farm of Captain Haden, some miles south of Miami. Source unknown, but probably introduced with a large number of other plants from various parts of the world introduced by him." (Wight).

**20880. AGAVE RIGIDA ELONGATA.****Henequen.**

From St. Louis, Mo. Received through Dr. Wm. Trelease, director, Missouri Botanical Garden, April 20, 1907.

"Plants representing the true gray henequen or gray sisal of Yucatan. They are what botanists currently call *Agave rigida elongata*." (Trelease.)

**20890. CARLUDOVICA PALMATA.**

From Ancon, Canal Zone, Panama. Received through Mr. Henry F. Schultz, April 23, 1907.

**20891 to 20894.**

From Kobe, Japan. Presented by Hon. Hunter Sharp, American consul, who purchased them from J. Ikeda & Co., Tokyo, Japan. Received March 25, 1907.

## 20891 to 20894—Continued.

20891. DOLICHOS LABLAB.	Hyacinth bean.
<i>Fujimame.</i>	
20892. GLYCINE HISPIDA.	Soy bean.
White.	
20893. GLYCINE HISPIDA.	Soy bean.
Green.	
20894. PHASEOLUS ANGULARIS.	Adzuki bean.

## 20895. IPOMOEA FUCHSIODES.

From Miami, Fla. Received through Dr. E. A. Bessey, Subtropical Laboratory, April 25, 1907.

"A most excellent thing and destined to be a great favorite among lovers of morning-glories. It grows wild in the hammocks around Miami. In its native state it makes poor growth; but a vine in culture in the garden at Miami for two years has made immense growth and is covered nearly all the year with brilliant carmine-colored blooms. It seeds exceedingly sparsely. The plant is tuberous, and it is believed that if the roots were covered during the winter it would grow at least as far north as North Carolina." (*Wester.*)

## 20900 to 20906.

From Victoria, Tamaulipas, Mexico. Presented by Dr. Edward Palmer, March 25, 1907.

20900 to 20905. PHASEOLUS VULGARIS.	Bean.
20900. <i>Amarillo.</i>	20903. <i>Morado.</i>
20901. <i>Garbancillo.</i>	20904. <i>Baylo chico.</i>
20902. <i>Gordo.</i>	20905. <i>Negro chico.</i>
20906. ERVUM LENS.	Lentil.

## 20907. PSOPHOCARPUS TETRAGONLOBUS.

From Columbia, Isle of Pines, West Indies. Presented by Dr. F. R. Ramsdell, April 26, 1907.

## 20908. CANANGA ODORATA.

Ilang ilang.

From Manila, P. I. Presented by Mr. W. S. Lyon, horticulturist, Bureau of Agriculture, through Mr. O. W. Barrett, April 26, 1907.

"Mr. Creelman, the war correspondent, called on the Assistant Secretary of Agriculture and stated that it was his belief that the Ilang ilang might be grown in southern Florida and its remarkably fragrant blossoms shipped to our northern markets and sold—much as the Cape jasmine is now imported from the south and handled by the florists of our big cities. It is Mr. Creelman's belief that a small industry could be started with this flower and that its remarkable fragrance would attract the immediate attention of flower lovers." (*Fairchild.*)

## 20909 to 20922.

From Finland. Received April 20, 1907.

20909. HORDEUM VULGARE.	Barley.
20910. SECALE CEREALE.	Rye.
20911. PISUM SATIVUM.	Pea.

**20909 to 20922—Continued.**

20912.	PISUM SATIVUM.	Pea.
20913.	ALLIUM CEPA.	Onion.
20914.	BRASSICA OLERACEA.	Kale.
20915.	BRASSICA OLERACEA.	Kale.
20916.	BRASSICA OLERACEA.	Cabbage.
20917.	BRASSICA OLERACEA.	Cabbage.
20918.	BRASSICA RAPA.	Turnip.
20919.	CUCUMIS SATIVUS.	Cucumber.
20920.	CUCUMIS SATIVUS.	Cucumber.
20921.	CUCUMIS SATIVUS.	Cucumber.
20922.	LACTUCA SATIVA.	Lettuce.

**20923. HIBISCUS SABDARIFFA.****Roselle.**

From Alexandria, Egypt. Presented by Mr. V. F. Naggiar, November 6, 1906.

"From the calyx of this species is prepared one of the most attractive and delicious jellies known. It has been discovered that this jelly can be made not only from the calyx, but from all the succulent portions of the plant. As this species will grow, during our summers, as far north as New York, or perhaps farther, it is worthy of trial by all those interested in fancy jellies." (*Fairchild.*)

See Farmers' Bulletin No. 307, by P. J. Wester.

**20924 to 20934. ORYZA SATIVA.****Rice.**

From Calcutta, India. Presented by Mr. A. T. Gage, superintendent of the Royal Botanic Garden, Sibpur. Received February 25, 1907.

20924.	<i>Kalam dan</i> paddy.	20930.	<i>Kedali</i> paddy.
20925.	<i>Shela</i> paddy.	20931.	<i>Sita bhoge</i> paddy.
20926.	<i>Srikole</i> paddy.	20932.	<i>Thakar bhoge</i> paddy.
20927.	<i>Bhusikar</i> paddy.	20933.	<i>Ash baran</i> paddy.
20928.	<i>Bansmate</i> paddy.	20934.	<i>Nagpur</i> paddy.
20929.	<i>Behula</i> paddy.		

**20935 and 20936. ORYZA SATIVA.****Rice.**

From Yokohama, Japan. Received through Sale & Frazar (Limited), April 23, 1907.

20935.	<i>Hang choo.</i>	20936.	<i>Kun po.</i>
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**20937. CITRUS MEDICA ACIDA.****Lime.**

From Port of Spain, Trinidad. Presented by Mr. E. André, April 30, 1907.  
*Dominica Spineless.*

**20938 to 20942.**

From Moyobamba, Peru. Presented by Mr. Serafin Filomeno, April 29, 1907.

20938.	HEVEA BRASILIENSIS.	"Jebe" rubber.
20939 to 20942.	PHASEOLUS VULGARIS.	Bean.
20939.	Reddish brown, mottled with brick.	
20940.	Yellow brown.	
20941.	White.	
20942.	Mixed, purplish and light brown, mottled with purple.	

**20943. CINNAMOMUM CAMPHORA.****Camphor.**

From Kobe, Japan. Presented by Hon. Hunter Sharp, American consul, who purchased them from J. Ikeda & Co., Tokyo, Japan. Received March 25, 1907.

**Cultural directions:**

*"Soil and situation.*—The camphor tree prefers a fertile clay soil with southern aspect, where no cold wind blows. If there are no cold winds, it thrives also in shaded places, but the most favorable situation is a valley open to the south or southeast, with much moisture and with a warm sea breeze.

*"Seedling.*—The seeds are sown in March as soon as there is no danger from frost, being covered with about one-third of an inch of soil. As soon as they begin to grow they must be carefully weeded.

"The following year about the middle of June, when the sprouts are about 3 inches high, the plants are to be transplanted, and when the small white roots begin to grow they are transplanted again to a place where they should stay a year. The plants should have the leaves and roots severely pruned. The roots are cut to about 5 inches, and the stems are also cut.

"The weather for transplanting should be cloudy, or a day before a rain if possible.

"Two-year-old trees may be set out in a forest or garden, at which time the branches are pruned severely. Poorly grown plants, however, may remain for another season in the same ground." (*Prepared for Sharp.*)

**20944. CAESALPINIA NAGU.**

From Mindoro, P. I. Presented by Mr. W. S. Lyon, horticulturist, Bureau of Agriculture, by whom it was collected in March, 1907. Received April 29, 1907.

"Robust scandent shrub, ascending to 10 meters by means of small, scanty prickles; leaves coriaceous, lustrous, and very persistent; individual flowers small, canary yellow, grouped in large, showy terminal panicles, strongly and deliciously scented.

"Habitat, damp but well-drained clay soils at sea level. Tolerates occasional tidal overflows of brackish, but not pure, sea water.

"Flowers abundantly, but perfects seeds very sparingly. Worthy of cultivation." (*Lyon.*)

**20945 to 20954.**

From Buitenzorg, Java. Presented by Dr. M. Treub, director of the Department of Agriculture, through Mr. O. W. Barrett, April 30, 1907.

**20945 to 20948. COLOCASIA ANTIQUORUM.****Taro.**

20945. Variety *polyrhiza flava*.

"Kiempol koening."

20946. Variety *polyrhiza rubra*.

"Kiempol merah."

20947. Variety *polyrhiza alba*.

"Kiempol poetieh."

20948. Variety *polyrhiza*.

"Kiempol belang."

**20949 and 20950. ALOCASIA MACRORHIZA.****Taro.**

20949. Variety *purpurascens*.

"Senteh merah."

20950. "Senteh belang."

**20951 to 20954. COLOCASIA ANTIQUORUM.****Taro.**

20951. Variety *monorhiza*.

"Talus banteng ietem."

20952. Variety *monorhiza*.

"Talus banteng belang."



**20945 to 20954—Continued.**20953. Variety *monorhiza*.

"Talus koekoek."

20954. Variety *monorhiza*.

"Talus belang."

**20955 to 20967. CERATONIA SILIQUA.****Carob.**

From Lisbon, Portugal. Secured by Mr. Louis H. Aymé, United States consul-general, April 30, 1907.

"Scions of the finest 'alfarroba' trees to be found in the province of Algarve, the name of the plantation, proprietor, and the average annual production of the tree from which the grafts were cut being given with each." (Aymé.)

20955. From Valle da Arrencada, plantation of Joaquim Traquino; yield 50 to 60 pounds per annum.

20956. From Monte Alegre, plantation of Frederico da Pazmendes; yield 20 to 30 pounds per annum.

20957. From Serro dos Córços, plantation of Dr. Alfredo Magathaes Barros; yield 30 to 40 pounds per annum.

20958. From Taipas, plantation of Visconde de Alvôr; yield 40 to 50 pounds per annum.

20959. From Quinto do Bispo, plantation of Brák Lamim; yield 15 to 20 pounds per annum.

20960. From Bôa Vista, plantation of José Teiyeira Biker; yield 20 to 25 pounds per annum.

20961. From Alcurão, plantation of Antonio Vicente; yield 10 to 15 pounds per annum.

20962. From Chão das Donas, plantation of Antonio José da Motta; yield 35 to 40 pounds per annum.

20963. From Valle da Arrencada, plantation of Joaquim Traquino; yield 15 to 20 pounds per annum.

20964. From Bôa Vista, plantation of Luis Antonio Maravithat; yield 30 to 40 pounds per annum.

20965. From Valle da Arrencada, plantation of Visconde de Alvôr; yield 15 to 20 pounds per annum.

20966. From Bem Parece, plantation of Conde de Silves; yield 16 to 20 pounds per annum.

20967. From Poço da Lagem, plantation of D. Luis Bordas y Marimon; yield 20 to 30 pounds per annum.

**20968. GLYCYRRHIZA GLABRA.****Licorice.**

From Patras, Greece. Presented by Mr. F. B. Wood, British consul, March 6, 1907.

"Greek wild licorice roots." (Wood.)

**20969. SYNGONIUM sp.****Vanilla.**

From Gomez Farias, Tamaulipas, Mexico. Presented by Dr. Edward Palmer, Victoria, Tamaulipas, Mexico, through Dr. J. N. Rose, U. S. National Museum, Washington, D. C. Received May 4, 1907.

(Rose's No. 07.277.)

**20970 to 20973.**

From Gomez Farias, Tamaulipas, Mexico. Presented by Dr. Edward Palmer, Victoria, Tamaulipas, Mexico, May 4, 1907.

20970. *XANTHOSOMA* sp.**Yautia.**

"*Rejalgar de castilla*. The young leaves and stalks are cooked as greens by the natives and are also cut up into bits and mixed with eggs,



## 20970 to 20973—Continued.

shrimps, and chile, forming a dish 'none will refuse.' Roots are also mashed and made into a gruel." (*Palmer*.)

20971 to 20973. *IPOMOEA BATATAS*.

Sweet potato.

20971. Wild.

20973. Red.

20972. White.

20974. *BARLERIA FLAVA*.

From Mindoro, P. I. Presented by Mr. William S. Lyon, horticulturist, Bureau of Agriculture, by whom it was collected in March, 1907. Received May 4, 1907.

"Dwarf yellow-flowered shrub; very floriferous over period of six months. Thriving at sea level in shallow, rocky soils where exposed to nearly continuous drought from January to May." (*Lyon*.)

20976. *RAPHANUS SATIVUS*.

Radish.

From Chico, Cal. Received through Mr. P. H. Dorsett, in charge of Plant Introduction Garden, April 13, 1907.

Seed raised from radishes sent in from Yang-tchow, China, in 1906, by Mr. Frank N. Meyer, agricultural explorer. (Meyer's No. 149.)

20977. *ORYZA PUNCTATA*.

Rice.

From Cairo, Egypt. Presented by Dr. G. Schweinfurth, May 10, 1907.

"Wild *Scilluk* rice, gathered as a cereal by the Scilluk tribes in Lull, above Fashoda. Collected by Mr. Robert Tuerstig, Omdurman, British Egyptian Soudan." (*Schweinfurth*.)

20978 to 20979. *PHYSALIS*.

Husk tomato.

From Queretaro, Mexico. Presented by Mr. M. M. Urquiza, through Mr. O. W. Barrett, May 13, 1907.

20978. Husk and fruit purple near stem.

20979. Husk and fruit yellowish near stem.

20980. *VIGNA UNGUICULATA*.

Cowpea.

From Nairobi, British East Africa. Presented by Mr. Henry Powell, Director of Agriculture, through Mr. C. V. Piper, May 10, 1907.

## 20981 to 20984.

From Amani, German East Africa. Presented by Dr. Franz Stuhlmann, direktor des Kaiserlichen Biologisch-Landwirtschaftlichen Instituts, through Mr. C. V. Piper, May 8, 1907.

20981 and 20982. *ANDROPOGON SORGHUM*.

Sorghum.

20981. White durra. "Kisuhili mgau."

20982. White durra. "Kisuhili fere-fere."

20983 and 20984. *VIGNA UNGUICULATA*.

Cowpea.

20983. Brown, resembling *Red Ripper*.

20984. Mottled brown, resembling *New Era*.

## 20985 to 20987.

From St. Georges, Grenada, British West Indies. Presented by Mr. Rudolph I. Anstead, agricultural superintendent, Botanic Station, through Mr. O. W. Barrett, May 9, 1907.

20985 and 20986. *XANTHOSOMA* sp.

Yautia.

20987. *IPOMOEA BATATAS*.

**20989. ZIZYPHUS SPINA-CHRISTI. Jujube, or Christ's-thorn.**

From Assiut, Egypt. Presented by Mr. Thomas W. Brown, secretary, La Société Horticole Commerciale, Cairo, May 14, 1907.

"A large edible-fruited variety of this species." (*Brown.*)

**20990. CAREX TRIANGULARIS. Sedge.**

From Rosenberg, Tex. Received through Mr. John H. Tull, special agent in charge of matting-rush investigations, United States Department of Agriculture, May 11, 1907.

"A sample of this sedge was discovered by Mr. R. H. Sawyer, of Malden, Mass., April 18, 1907, near the railroad station at Rosenberg, Tex. As it turns out to be a very promising species, his account of its discovery is worthy of record: During a delay caused by a breakdown on the railroad, as Mr. Sawyer was returning from Japan, where he had been in search of Japanese sedge and rush plants, he got out to explore the ditches and wet places for sedges and rushes, and this angular species attracted his attention. He gathered a few heads and collected a few plants, which he afterwards wove in his mills. Discovering that it was a native species occurring throughout Texas and Oklahoma and finding on weaving it that it was a specially promising variety, he requested that seeds be gathered in quantity. Mr. Tull was sent to Rosenberg, Tex., and collected the seed which forms the subject of this inventory description." (*Fairchild.*)

**20991 to 21000. DIOSCOREA sp. Yam.**

From Moamoa, Apia, Samoa. Presented by Brother Philippe, Marist Brothers' Agricultural College, through Mr. O. W. Barrett, May 14, 1907.

Samoan names accompanied the plants, as follows:

20991. <i>Ufi vao.</i>	20996. <i>Asoaso.</i>
20992. <i>Calai.</i>	20997. <i>Gu.</i>
20993. <i>Laupalai.</i>	20998. <i>Aumaile.</i>
20994. <i>Tamuni.</i>	20999. <i>Voli.</i>
20995. <i>Asoasoulumoa.</i>	21000. <i>Fakasoa.</i>

**21001. PYRUS SINENSIS. Pear.**

From Yokohama, Japan. Presented by the Yokohama Nursery Company (Limited). Received May 15, 1907.

"This pear seed was obtained at Heijo, some 150 miles by rail west of Seoul, Korea. The trees in the wild form are 20 feet high, and the trunks measure over 2 feet in diameter at the base. They spread out like the oak tree." (*Yokohama Nursery Company.*)

**21002. BAMBUSA TULDA. Bamboo.**

From Sibpur, Calcutta. Presented by Mr. A. T. Gage, superintendent, Royal Botanic Garden, May 16, 1907.

"*Habitat.*—This is the common bamboo of Bengal, where it grows in great abundance everywhere, flowering in May. 'Not uncommon in the deciduous forests of Pegu, generally occupying lower and moister stretches of ground in company with tinwa (*Cephalostachyum pergracile*), the dry hills surrounding being covered with *Dendrocalamus strictus*.' (*Brandis.*)

"*Fiber.*—Largely used for mats, baskets, fans, and window blinds. This is, in fact, one of the most useful plants in Bengal.

"*Food.*—The young shoots are pickled when only about two feet high. They are tender.' (*Roxburgh.*)

"*Structure of the wood.*—The wood is strong, and the halms are used for roofing, scaffolding, mats, and other purposes.' (*Gamble.*)

"Found more durable if soaked in water previous to being used. This is regarded in Bengal as one of the best quality of bamboos. Both Roxburgh and Voigt mention several varieties. The following extract will be found to give the more important forms: '*Foua bans (piabansh?)* of the Bengalis is only a large variety of this species, and used chiefly for scaffolding and building the larger and better sorts of houses of the natives. It differs from *tulda* proper

**21002—Continued.**

in the greater length and thickness of the joints. *Basini bans* of the Bengalis is another variety of *tulda*. It has a larger cavity and is used chiefly to make baskets. *Behoor bans* is of a small size, very solid and strong, much bent to one side, and armed with numerous strong thorns, which renders it very fit for hedges. A staff of this species must be placed in the hand of every young Brahmin when invested with the sacerdotal cord; otherwise they say the ceremony can not be performed.' (*Roxburgh*.)

"The total annual rainfall in the district where this garden is situated is about 83.22 inches. There should be no difficulty in growing this bamboo in the West Indies." (*Gage*.)

**21003 to 21004. CYAMOPSIS TETRAGONOLOBA.****Guar.**

From Bombay, India. Received through Latham & Co., May 18, 1907.

21003. *Talbuda*.21004. *Sotia*.**21006. VIGNA UNGUICULATA.****Cowpea.**

From Piracicaba, São Paulo, Brazil. Presented by Dr. J. William Hart, director of the Agricultural College, May 21, 1907.

*Macassar*. "The blue cowpea, known here as *Feijao macassar*, grows in the spring more slowly than such varieties as the Clay, Whippoorwill, Blackeye, Wonderful, and Rice, but outclasses them all in vigor and productiveness." (*Hart*.)

**21007. (Undetermined.)**

From Santiago, Chile. Presented by Señor Salvador Izquierdo, Calle Moneda 788, May 13, 1907.

"On a trip that I made into the mountains of the central part and along the coast of Chile I observed a plant, a creeper (?), which grows in places absolutely arid, where it receives no water except in the rainy seasons in the months of May and October, remaining in perfect vegetation the rest of the year; animals eat it rather eagerly. The appearance of the plant and its seeds would indicate that it belongs to the family Umbellifere. It might prove interesting to experiment with for the very dry regions of the United States." (*Izquierdo*.)

**21008. PHOENIX DACTYLIFERA.****Date.**

From Bagdad, Turkey in Asia. Received through Hills Bros. Company, New York, N. Y., May 18, 1907.

*Zehedi*. "For distribution to planters in the Southwest for the purpose of getting new seedling varieties." (*Swingle*.)

**21009 to 21011. PHOENIX DACTYLIFERA.****Date.**

From Washington, D. C. Received through Mr. H. L. Strang, May 23, 1907.

"Persian Gulf dates purchased in the open market. For distribution to planters in the Southwest for the purpose of getting new seedling varieties." (*Swingle*.)

21009. *Fard*.21011. *Khadrawi*.21010. *Halawi*.**21012. ALEURITES CORDATA.****Japanese wood oil.**

From Kobe, Japan. Presented by Hon. Hunter Sharp, American consul, who purchased them from J. Ikeda & Co., Tokyo, Japan. Received March 25, 1907.

For comparison with the following (No. 21013)—Tung shu, or wood-oil tree.

**21013. ALEURITES FORDII.****Tung, or Chinese wood oil.**

From Hankow, China. Secured by Hon. William Martin, United States consul-general, through Mr. David Fairchild, May 16, 1907.

**21013—Continued.**

For experiments in the propagation of this tree in America as a possible commercial source of Chinese wood oil and other products. (See S. P. I. No. 13104 and Daily U. S. Consular Report No. 2206.)

**21014 to 21018.**

From Melbourne, Victoria. Received through F. H. Brunning Pty. Ltd.  
Received May 22, 1907.

<b>21014.</b> DACTYLIS GLOMERATA.	Orchard grass.
<b>21015.</b> FESTUCA ELATIOR.	Tall fescue.
<b>21016.</b> FESTUCA PRATENSIS.	Meadow fescue.
<b>21017.</b> POA PRATENSIS.	Kentucky bluegrass.
<b>21018.</b> PHEUM PRATENSE.	Timothy.

**21019. CITRUS MEDICA ACIDA. Lime.**

From Dominica, British West Indies. Presented by Prof. Joseph Jones, curator, Botanic Station, May 24, 1907.

*Dominica Spineless.*

**21020. OPUNTIA sp. Tuna.**

From Alamogordo, New Mexico. Presented by Mr. A. B. Dille, May 27, 1907.

"This variety seems to grow very rank and vigorous and is almost entirely free from spines." (*Dille.*)

**21021. GLYCYRRHIZA GLABRA. Licorice.**

From Ispahan, Persia. Received through Mr. John Tyler, United States vice consul general, Teheran, Persia, May 31, 1907.

**21023 to 21027.**

From Auckland, New Zealand. Purchased from E. C. Pilkington & Co., June 1, 1907.

<b>21023.</b> FESTUCA SABULICOLA.	Chewing's fescue.
<b>21024.</b> DANTHONIA SEMIANNULARIS.	Wallaby grass.
<b>21025.</b> SPOROBOLUS ELONGATUS.	Rat-tail.
<b>21026.</b> DACTYLLIS GLOMERATA.	Akaroa cock's-foot.
<b>21027.</b> FESTUCA ELATIOR.	Tall fescue.

**21028 to 21029. LILIUM sp.**

From Kinghwa, China. Received through Mr. J. M. W. Farnham, from Rev. T. D. Holmes, American Baptist Union, June 3, 1907.

"Golden yellow and cream-colored lilies, both rare, the cream colored being very rare. Blooms in July and August." (*Farnham.*)

**21030 to 21031.**

From Tegucigalpa, Honduras. Presented by Dr. Reinhold Fritzgartner, June 6, 1907.

**21030. (Undetermined.)**

"*Matasano.* A big tree; fruit the size of an orange or larger; skin green, with spiny pustules sparsely scattered over the surface; flesh white or yellow, sweet or slightly sour, containing two or three large black seeds." (*Fritzgartner.*)

**21031. CARICA PAPAYA. Papaw.**

"*Papaya*; a very large sized variety." (*Fritzgartner.*)

## 21033 to 21034.

From Venice, Italy. Presented by Hon. Paul Nash, American consul, June 7, 1907.

## 21033. BRASSICA OLERACEA.

Cabbage.

"*Kupus*. From Ragusa, Dalmatia. In point of flavor the plant as grown there is very different from the ordinary European varieties, and highly prized by those who have eaten it. It appears that seeds produced in Ragusa have been planted in various parts of Europe, Asia Minor, and Africa, but the cabbages grown from them no longer retain the peculiar flavor of the *Kupus*. This is equally true of regions of the Dalmatian coast comparatively near Ragusa." (Nash.)

## 21034. LAGENARIA sp. (?)

Procured from Fratelli Sgaravatti, Saonara, Padova, Italy.

"This is a delicious, slightly sweet vegetable called *Zucca*, resembling in form the cucumber and eaten stewed, fried, or boiled, and served cold as a salad. The flowers of the squash are also used here extensively, and when fried to a crisp are most delightful." (Nash.)

## 21039. FURCRAEA sp.

From Nice, France. Presented by Dr. A. Robertson Proschowsky, June 13, 1907.

The same as S. P. I. No. 21473.

## 21040 to 21043.

From Christchurch, New Zealand. Presented by Mr. L. Cockayne, Ollivier's Road, June 13, 1907.

## 21040. MYOSOTIDIUM NOBILE.

"From Chatham Island; collected April, 1907." (Cockayne.)

## 21041. VERONICA MACROURA.

Cooks Strait form.

## 21042. PITTOSPORUM TENUIFOLIUM.

## 21043. CASSINIA FULVIDA.

"Grows on sand dunes." (Cockayne.)

## 21044. COLEOCOCCUS AMICARUM.

Caroline ivory-nut palm.

From Ponape, Caroline Islands, Oceanica. Presented by Mr. Wm. S. Lyon, horticulturist, Bureau of Agriculture, Manila, P. I., June 14, 1907.

"A pinnate-leaved palm introduced into Guam from the Caroline Islands. The nuts are of an ivory-like texture and are exported from the Carolines to Germany for button making. The spheroid fruit, about 7 cm. long and 8 cm. in diameter, has a reddish brown, glossy, scaly shell. The surface of the seed is glossy black and thickly striped, but not furrowed. The allied species of the Solomon Islands (*C. solomonensis*) has a straw-colored shell, and that of *C. vitiensis*, of Fiji, which is not used in the arts, is yellow. The inflorescence of this genus has not yet been described. In some of the Solomon Islands the natives prepare sago from the pith of the species growing there. It is said to keep well and not to be injured by salt water, so that it is a valuable food staple to take with them on their canoe voyages." (*Safford's Useful Plants of Guam.*)

## 21045. ARAUCARIA IMBRICATA.

Monkey-puzzle.

From Coronel, Chile. Presented by Mr. Teodoro Finger, June 14, 1907.



**21046 to 21047.**

From Cienfuegos, Cuba. Presented by Dr. Robert M. Grey, Harvard Botanical Station, Central Soledad, June 14, 1907.

**21046.** *Gossypium barbadense*. Cotton.

"(Var. *purpurascens*.) Red cotton from the hills." (Grey.)

**21047.** *Xanthosoma violaceum*. Yautia.

**21050 to 21055.**

From Mayaguez, P. R. Presented by Mr. M. J. Iorns, horticulturist, Agricultural Experiment Station, through Mr. O. W. Barrett, June 18, 1907.

**21050.** *Artocarpus incisa*. Breadfruit.

**21051.** *Cassia occidentalis*. "Ydionxa."

**21052.** *Hibiscus abelmoschus*. "Algalia."

**21053 to 21055.** *Musa sapientum*. Banana.

**21053.** *Palembang*. (ex. Kew.)

**21054.** *Popoulu*. (ex. Hawaii.)

**21055.** *Lele*. (ex. Hawaii.)

**21056 to 21057.**

From Aburi, Gold Coast, British West Africa. Presented by Prof. A. E. Evans, Acting Director of Agriculture, through Mr. O. W. Barrett, June 17, 1907.

**21056.** *Sideroxylon dulcificum*. Miraculous tree.

**21057.** *Mimusops djave*. Baco nut.

"Probably *M. djave*, 'baco nut.' Seed yields 40 per cent of oil; timber exported as West African mahogany." (Evans.)

**21058. ANONA CHERIMOLIA.**

**Cherimoyer.**

From Lima, Peru. Presented by Mr. T. F. Sedgwick, director, Estacion Experimental, June 19, 1907.

**21059. EUGENIA JAMBOS.**

**Rose apple.**

From Mayaguez, Porto Rico. Presented by Mr. M. J. Iorns, horticulturist, Agricultural Experiment Station, through Mr. O. W. Barrett, June 18, 1907.

**21060. VICIA VILLOSA.**

**Hairy vetch.**

From Riga, Russia. Received through Messrs. Vollmer & Co., June 20, 1907.

"This seed is exclusively grown in the Riga district, or, more correctly, in the Courland and Lithuanian provinces here, where we have experienced during the last winter a cold of 25° R. below zero, and we think that in New England scarcely any lower temperature will prevail in winter. This vetch is sown with us in autumn. We have inquired anew of the farmers and find that no hairy vetch seed is sown in the spring here. They call it winter vetch and sow it in the fall, using winter rye as a nurse crop. The northernmost point in Russia where the hairy vetch is grown is the Petersburg district, but the climatic conditions there do not allow it to mature, and large quantities of the seed are shipped there every year from here.

"An interesting point is that the Scandinavian countries are importing large quantities of this seed, much of it going to Copenhagen.

"This seed was grown on some large estates in Courland and adjoining Lithuanian districts." (Vollmer & Co.)

**21061. VIGNA UNGUICULATA.**

**Cowpea.**

From Village, Ark. Presented by Mr. Jas. Moody, R. No. 1, through Prof. C. V. Piper, June 20, 1907.

"An ideal pea for hay, as the vines are slender." (Moody.)



## 21062 to 21086.

From Manchuria. Received through Mr. Frank N. Meyer, agricultural explorer, June 21, 1907.

## 21062. CANNABIS SATIVA.

Hemp.

From Wu-lu-kai, Manchuria. "(No. 703a, Jan. 3, 1907.) Chinese name *Shem-ma*. A variety of hemp growing on the rather sandy lands around here. It has thin stalks and produces a strong kind of hemp, though not quite white of fiber." (Meyer.)

## 21063. CANNABIS SATIVA.

Hemp.

From Wu-li-pu, Manchuria. "(No. 711a, Dec. 27, 1907.) Said to be a strong, good hemp." (Meyer.)

## 21064. FAGOPYRUM ESCULENTUM.

Buckwheat.

From Tchwang-yang, Manchuria. "(No. 702a, Jan. 9, 1907.) Chinese name *Tchau mi*. It is used to make cakes and a blackish kind of bread." (Meyer.)

## 21065. MALUS sp.

Crab apple.

From north Kirin, Manchuria. "(No. 716a, Jan. 2, 1907.) For remarks see Nos. 568a, 569a, and 570a (S. P. I. Nos. 20339 to 20341)." (Meyer.)

## 21066. ORYZA SATIVA.

Rice.

From Wu-li-pu, Manchuria. "(No. 704a, Dec. 27, 1906.) Dry-land rice. Chinese name *Pai tau tze*. A very good variety of white rice, being eaten as a staple food by the people of the northern part of Manchuria; said to be a trifle soft when boiled. It is sown in rows 1½ feet apart and loves a moisture-retaining soil." (Meyer.)

## 21067. ORYZA SATIVA.

Rice.

From Scha-li-ho, Manchuria. "(No. 705a, Jan. 8, 1907.) Dry-land rice; said to be a better variety than the preceding number (No. 704a, S. P. I. No. 21066), but seems to be about the same." (Meyer.)

## 21068. ORYZA SATIVA.

Rice.

From Kai-yuan, Manchuria. "(No. 706a, Jan. 14, 1907.) Dry-land rice. Chinese name *Neu mo tau*. It is a very good, hard variety, forming a staple food for the people, and seems to be able to grow in drier localities than the preceding numbers (Nos. 704a and 705a, S. P. I. Nos. 21066 and 21067). It seems to be a valuable addition to the crops of the northern United States." (Meyer.)

## 21069. ORYZA SATIVA.

Rice.

From Tiëling, Manchuria. "(No. 707a, Jan. 17, 1907.) Dry-land rice; the same variety as the preceding number (No. 706a, S. P. I. No. 21068), but having somewhat redder husks; otherwise the same remarks apply to it." (Meyer.)

## 21070. POLYGONUM TINCTORIUM.

From Wu-li-pu, Manchuria. "(No. 708a, Dec. 27, 1906.) Chinese name *Diên*. An annual herb, the young stems and leaves of which are used to produce an indigo, which supplies the dye for the blue clothes seen all over north China. Seeds are sown in rows, generally 1½ feet apart." (Meyer.)

## 21071. TRITICUM VULGARE.

Wheat.

From Tchwang-yang, Manchuria. "(No. 700a, Jan. 9, 1907.) Summer wheat. The best variety of hard wheat of the neighborhood." (Meyer.)

## 21072. TRITICUM VULGARE.

Wheat.

From Wu-lu-kai, Manchuria. "(No. 701a, Jan. 3, 1907.) Summer wheat. A medium hard variety of wheat grown all over the country around Wu-lu-kai." (Meyer.)

## 21062 to 21086—Continued.

## 21073. CHAETOCHELOA ITALICA.

Siberian millet.

From Wu-li-pu, Manchuria. "(No. 696a, Dec. 27, 1906.) A small red millet. Chinese name *Hong nien ko*. Used, after being hulled, as food, being boiled with water into a kind of porridge. Sown on rather light soils, rows  $1\frac{1}{4}$  feet apart." (Meyer.)

## 21074. PANICUM MILIACEUM.

Broom-corn millet.

From Wu-li-pu, Manchuria. "(No. 697a, Dec. 27, 1906.) A white-seeded millet. Chinese name *Gwang mi*. The seeds are used, after being hulled, as food, being boiled into a stiff porridge; also used for broom making, the heads being very drooping. It is sown in rows 2 to  $2\frac{1}{4}$  feet apart on not too heavy soils." (Meyer.)

## 21075. PANICUM CRUS-GALLI.

Barnyard millet.

From Tchwang-yang, Manchuria. "(No. 698a, Jan. 9, 1907.) A grayish millet; Chinese name *Pai tse*. It is used, after being hulled, in the boiled state as a food for the poorer classes. Grown on low-lying rich land, and makes an enormous number of stalks; sown in rows  $2\frac{1}{4}$  to 3 feet apart. Seeds sent before under Nos. 50a and 592a (S. P. I. Nos. 17901 and 20363)." (Meyer.)

## 21076. CHAETOCHELOA ITALICA.

Siberian millet.

From Wu-lu-kai, Manchuria. "(No. 699a, Jan. 3, 1907.) A small white millet. Chinese name *Pai shau mi tse*. This variety is considered the very best of all the small millets in Manchuria. It is boiled and eaten as a porridge after being hulled. Sown on sandy lands in rows  $1\frac{1}{4}$  feet apart." (Meyer.)

## 21077. ANDROPOGON SORGHUM.

Sorghum.

From Mukden, Manchuria. "(No. 717a, Jan. 23, 1907.) A white sorghum; Chinese name *Pai kau liang*. The best variety of white millet grown around Mukden. It is used as a food in the form of porridge, small cakes, and also served often as vermicelli. It commands one-third more money than the brown-colored millets do." (Meyer.)

## 21078. ANDROPOGON SORGHUM.

Sorghum.

From Mukden, Manchuria. "(No. 718a, Jan. 23, 1907.) A brown-colored sorghum; Chinese name *Kau liang*. The best variety of brown millet grown around Mukden. It is used as food in the shape of porridge and cakes; also an important food for the domestic animals." (Meyer.)

## 21079. GLYCINE HISPIDA.

Soy bean.

From Tiëling, Manchuria. "(No. 693a, Jan. 18, 1907.) A light green soy bean; Chinese name *Shing toa*. This bean is used to produce bean oil and bean cake. The variety is very rarely seen." (Meyer.)

## 21080. GLYCINE HISPIDA.

Soy bean.

From Tiëling, Manchuria. "(No. 694a, Jan. 18, 1907.) A dark green soy bean; Chinese name *Li dau shing*. This bean is used as a vegetable throughout the winter months, being eaten boiled after it has sprouted slightly. This variety is the most expensive of all the soy beans and is eaten by the better classes of Chinese; sent also from Harbin under No. 675a (S. P. I. No. 20854)." (Meyer.)

## 21081. PHASEOLUS ANGULARIS.

Adzuki bean.

From Tiëling, Manchuria. "(No. 689a, Jan. 17, 1907.) A small grayish bean; Chinese name *Pei sha toa*; used as food, being eaten boiled with rice or millets." (Meyer.)

## 21062 to 21086—Continued.

## 21082. PHASEOLUS ANGULARIS.

Adzuki bean.

From Tiöling, Manchuria. "(No. 690a, Jan. 17, 1907.) A small red bean; Chinese name *Hong sha toa*. It is used as food, being eaten boiled with rice or different millets, and also ground up with sugar as a confection in small millet cakes." (Meyer.)

## 21083. PHASEOLUS ANGULARIS.

Adzuki bean.

From Tiöling, Manchuria. "(No. 691a, Jan. 18, 1907.) A small red bean; Chinese name *Hong sha toa*. A larger variety than the preceding number (No. 690a, S. P. I. No. 21082); otherwise the same remarks apply to it." (Meyer.)

## 21084. PHASEOLUS ANGULARIS.

Adzuki bean.

From Tiöling, Manchuria. "(No. 692a, Jan. 18, 1907.) A brown, white-spotted bean; Chinese name *Gwa sho toa*; used as food, being boiled with rice or millets." (Meyer.)

## 21085. VIGNA UNGUICULATA.

Cowpea.

From Tchang-yang, Manchuria. "(No. 695a, Jan. 9, 1907.) A small speckled bean and a very rare variety. It is used as food in soup, and also boiled with rice and different millets." (Meyer.)

## 21086. PHASEOLUS RADIATUS.

Mung bean.

From Mukden, Manchuria. "(No. 719a, Jan. 23, 1907.) Chinese name *Lu toa*. This bean is used to make bean vermicelli and as a vegetable after having sprouted. As such it deserves greatly to be tried. As a cold salad with vinegar, salt, etc., or served hot with small pieces of fried pork or mixed with vermicelli, it is exceedingly palatable and relished by foreigners and Chinese alike." (Meyer.)

## 21092. PHOENIX DACTYLIFERA.

Date.

From Marseille, France. Purchased from Champagne Brothers through Mr. W. T. Swingle. Received June 22, 1907.

"*Deglet Noor*. To be planted in the southern part of California for experimental purposes." (Swingle.)

## 21094. MUCUNA sp.

From India. Presented by Vaughan's Seed Store, Chicago, Ill., June 25, 1907.

"This spotted bean is very productive. It grows wild and the seed is eaten. It is a pole bean and needs a long season, being planted in June and gathered in December. It is not of good flavor. The natives cook it with the flower of the mohul (*Bassia latifolia*), which is quite sweet; yields perhaps a quart and a gill to the vine; may be of value as food for stock." (From letter of one of Vaughan's correspondents.)

## 21095. BETA TRIGYNA.

From Strassburg, Germany. Presented by the director of the Botanic Gardens June 24, 1907.

Introduced for the beet-breeding work of this Department under Mr. Rittue's direct charge.

## 21096 to 21125. PHOENIX DACTYLIFERA.

Date.

From El Oued, Algeria, North Africa. Received from Captain Bussy, chief of the Bureau Arabe, through Mr. T. H. Kearney, June 27, 1907.

"*Tafazuccen*. One offshoot of each of the above numbers was received. Each shoot was given a separate number, as it was thought possible that different varieties might be obtained and that it would be advisable to trace their development separately." (Swingle.)

**21126 to 21185. PHOENIX DACTYLIFERA. Date.**

From Biskra, Algeria, North Africa. Received from Mr. Colombo, sr., through Mr. W. T. Swingle. Received June 27, 1907.

21126 to 21135. *M'Kentishee Degla.* 21147 to 21185. *Thooree.*

21136 to 21146. *Horra.*

Offshoots numbered separately, as under numbers 21096 to 21125.

**21186. VICIA FABA. Broad bean.**

From Shanghai, China. Presented by Dr. S. P. Barchet, American deputy consul-general, through Prof. C. V. Piper, June 3, 1907.

*O'leo Shai.*

**21188. CHAMAEDOREA sp. Palm.**

From El Cacao, Trece Aguas, Alta Verapaz, Guatemala. Received through Mr. G. P. Goll, of the Bureau of Plant Industry, July 1, 1907.

"A dwarf palm growing at an altitude of 1,200 feet; introduced for its ornamental value, as it withstands the dry heat of dwellings better than any other variety and is the most graceful of the smaller ones." (*Goll.*)

**21190. COLOCASIA sp. Taro.**

From Lima, Peru. Presented by Mr. T. F. Sedgwick, director, Estacion Experimental, through Mr. O. W. Barrett. Received July 3, 1907.

"So far as I can learn, this variety of taro is the only kind eaten here, and even this is not very extensively used." (*Sedgwick.*)

**21194. CYPERUS EXALTATUS. Samar.**

From Cairo, Egypt. Received from Mr. George P. Foaden, secretary, Khedivial Agricultural Society, July 2, 1907.

"This is a sedge which is grown in Egypt on irrigated lands, particularly on lands which are being flooded in order to wash out the salt. Its stems grow to a height of 6 or 8 feet and are split by the manufacturers and made into rather rough, but effective, mats, which they use in their houses. Introduced for the purpose of experiments in the manufacture of floor matting." (*Fairchild.*)

**21198. ARACHIS HYPOGAEA. Peanut.**

From Aburi, Gold Coast, British West Africa. Presented by Prof. A. E. Evans, Acting Director of Agriculture. Received July 5, 1907.

"So far this is the only variety grown in this colony. It is known as *Nkate* or *Nkatie* and is largely used as an article of food by the natives. It is exported from this colony, chiefly to France. The Gambia exports this nut in very large quantities, chiefly to France." (*Evans.*)

**21199 to 21201. IPOMOEA BATATAS. Sweet potato.**

From Bridgetown, Barbados, British West Indies. Presented by Mr. John R. Bovell, superintendent, Agricultural Department, through Mr. Rudolph Anstead, agricultural superintendent, Botanic Station, St. George's, Grenada, British West Indies, and Sir Daniel Morris, the Commissioner of Agriculture for the West Indies, at the request of Mr. O. W. Barrett. Received July 5, 1907.

"The varieties of sweet potatoes sent you are those that give a good yield all over the island and are free from disease. The *Trinidadian* is a potato that keeps well." (*Bovell.*)

21199. *Trinidadian.* 21201. *White Sealy.*

21200. *Johns.*

**21202. JUNCUS EFFUSUS.****Rush.**

From Webster, Tex. Presented by Mr. K. Saibara, through Mr. John H. Tull. Received July 8, 1907.

Secured for experiments in matting-rush investigations.

**21203. KIGELIA PINNATA.****Sausage tree.**

From Cairo, Egypt. Presented by Mr. George P. Fouden, secretary, Khedivial Agricultural Society. Received July 9, 1907.

"A good shade tree having exceedingly stiff foliage; the leaves are rough, like sandpaper." (*Fairchild*.)

**21204. NEPHELIUM LITCHI.****Litchi.**

From Hinghua, Fukien, China. Secured by Rev. William N. Brewster. Received at Seattle, October 18, 1906.

"*Soil*.—The trees flourish best in a soft, moist, black soil; alluvium seems best.

"*Location*.—Near by or on the bank of a stream or irrigation canal is best, though this is not essential. Where there is no stream the trees should be watered so frequently that the ground below the surface is always moist; about twice a week when rain is not abundant should be enough. After the young trees are well started, about 2 or 3 years old, the irrigation may be less frequent.

"*Frost* can not be borne at all. They will not flourish north of the frost line. They are particularly sensitive to cold while young. It is the custom here to wrap the trees with straw to protect them from the cold. After the trees are 5 or 6 years old they are less sensitive, and it takes quite a heavy frost to injure them.

"*Pruning* is not practiced with the litchi. The leaves, branches, and blossoms are allowed to grow without molestation. It is notable that the companion tree, the 'lingeng' (*Nephelium longanum*), is treated in exactly the opposite way by the same Chinese cultivators. The only pruning seems to be that required to prevent the young tree from bearing until it is 5 or 6 years old. This is very important—especially so with the 'lingeng.'

"*Propagation* is accomplished by tying a ball of earth about 8 inches in diameter to a joint on a branch of a good tree. This is done in February or March. An earthen vessel with the bottom broken out is fastened to the top of the ball, and this is filled with water almost daily. In about eight months the branch may be cut off and planted in the manner above described. The young tree should be planted in soil similar to that of the earth ball.

"*Blossoms* appear in April. They are very small and make very little change in the appearance of the tree. The blossoms fall off or thin themselves out without trouble to the horticulturist. The fruit ripens in July. It is a bright red color when ripe, and at a little distance a stranger would mistake it for a strawberry, as it is like that fruit in color, shape, and size. However, it has a rough rind, or thick skin, which breaks off easily. The meat is white, slightly tart, and very delicious. Who can describe a taste?

"The *seeds* are both large and small on the same tree. The small pit, of course, is much more desirable, but so far the Chinese do not seem to know how to develop uniformly small-seeded fruit. They claim that the blossoms that come out first develop small-seeded fruit, and the later ones are large. However, there are trees which bear many small-seeded litchis and others that are uniformly the opposite. They think the original tree and the soil have much to do with this.

"*Grafting* is not practiced with the litchi so far as I can learn. This is also in marked contrast to the methods used in 'lingeng' culture.

"*Fertilization* is important. Guano is probably as good as anything. The Chinese use night soil. They dig a shallow trench around the tree at the end of the roots and fill it with liquid manure of some sort. This is done about once in three months.

"*Enemies*.—The litchi has enemies, as all good things do. There is a worm that makes a ring around the trunk under the bark. When the circle is complete the tree dies; but the bark is broken by it, and by careful watching this



**21204—Continued.**

can be prevented before the worm does serious harm. There is also a sort of mildew upon the leaves in certain years that does much harm, and the Chinese do not seem to have any way of dealing with it. If these do not get into America with the imported plants they may never trouble you there at all." (*Brewster.*)

**21205. GALPHIMIA BRASILIENSIS.**

From Piracicaba, São Paulo, Brazil. Presented by Mr. Georg H. Weigt, director of the Botanic Gardens. Received July 23, 1907.

"The plant out here proves to be of great value in garden planting." (*Weigt.*)

**21209 and 21210. CITRUS AURANTIUM.****Orange.**

From Cape Verde, Africa. Presented by Mr. W. Crewdson, Southside, St. Leonards-on-Sea, England. Received July 16, 1907.

**21209. Cuttings.****21210. Seed.**

"This is a delicious variety of green orange of large size. Said to be generally propagated from seed." (*Crewdson.*)

**21213. BOUGAINVILLEA sp.**

From Santiago de las Vegas, Cuba. Presented by Prof. C. F. Austin, chief, Department of Horticulture, Estación Central Agronómica. Received July 17, 1907.

"This form has a small white or yellowish flower. It is found in this country in the old gardens and patios. It is the purple part of the flower of this form that makes it a very showy ornamental for arbors and such places." (*Austin.*)

**21214. CASTILLA ELASTICA (?).****Rubber.**

From Zent, Costa Rica. Presented by Mr. E. Pilgrims, United Fruit Company, Stirling Farm. Received July 18, 1907.

**21215. CAREX TRIANGULARIS.****Sedge.**

From Pierce, Tex. Received through Mr. F. W. Clarke, of this Department, July 23, 1907.

Plants for use in the matting-rush experiments.

**21218. GLYCYRRHIZA GLABRA.****Licorice.**

From Teheran, Persia. Secured by Mr. John Tyler, United States vice consul general. Received July 24, 1907.

For the experiments of Dr. Rodney H. True in the culture of licorice in America.

**21219 to 21224.**

From Barberton, Transvaal. Secured from Mr. George Thorncroft, through Mr. J. Burt Davy, July 25, 1907.

**21219. GLADIOLUS sp.****21222. TRITONIA sp.****21220. GLADIOLUS sp.****21223. ANDROCYMBIUM MELANTUIOIDES.****21221. WATSONIA DENSIFLORA.****21224. CEROPEGIA sp.****21226. ANONA CHERIMOLIA (?).****Cherimoyer.**

From Funchal, Madeira. Presented by Mr. Charles O. L. Power. Received July 29, 1907.

"Unnamed variety from tree having especially good record." (*Fairchild.*)



**21227. AMYGDALUS DAVIDIANA.****Peach.**

From Tientsin, China. Received through Mr. Frank N. Meyer, agricultural explorer, July, 1907, at the Plant Introduction Garden, Chico, Cal.

"(No. 728a, June 12, 1907.) Seeds to be utilized as a stock for peaches. Thrives well on high, dry soils and is apparently very resistant to disease. Seeds sent in 1905 under No. 9a (S. P. I. No. 18262), from Peking." (Meyer.)

**21228 to 21230.**

From Shanghai, China. Received through Mr. Frank N. Meyer, agricultural explorer, July 19, 1907.

**21228. RAPHANUS SATIVUS.****Radish.**

From Peking, China. "(No. 729a, June 3, 1907.) A long red radish; Chinese name *Hong laba*. A very good, large variety of a radish of a very oblong shape and bright red color; quite juicy when eaten fresh. It is eaten stewed, raw, or sliced and pickled; sown as soon as the frost leaves the ground." (Meyer.)

**21229. BRASSICA PE-TSAI.****Pe-tsai cabbage.**

From Peking, China. "(No. 730a, June 3, 1907.) Chinese name *Pai tsai*. Said to be a late, large, solid-headed, long cabbage of good keeping qualities. It requires, like all the Chinese varieties of cabbage, a light, well-worked soil with abundant moisture." (Meyer.)

**21230. FOENICULUM DULCE.****Sweet fennel.**

From Peking, China. "(No. 731a, June 3, 1907.) Chinese name *Huin shang tsai*. A very early vegetable grown by the Chinese as a flavoring herb. They use it in soups, in sauces, and with meat and fish; it is very sweet. The seed can be sown on sandy, moist situations as soon as frost leaves the ground; well worth a trial." (Meyer.)

**21231 to 21234.**

From Mongolia. Received through Hon. W. W. Rockhill, United States minister, Peking, China, July 29, 1907, on a memorandum presented by Mr. W. T. Swingle, November 26, 1906.

The following notations as to where the seed was procured were taken from bags and tags that came with the seed:

**21231. AVENA SATIVA.****Oats.**

Notation on tag: Oats gathered at Eul-cheu-seu-ts'ing-ti, in the valley of the upper Hoang-ho, two days' journey west of Kwei-hoa-t'cheng.

Notation on bag: Oats gathered in the valley of the Yellow River, 260 li west of Blueville (Ville-Blue).

**21232. MEDICAGO SATIVA.****Alfalfa.**

Notation on tag: Lucern with blue flowers from Ning-t'iao-leang; locality four days' journey southeast of Yu-lin-fou.

**21233. AVENA SATIVA.****Oats.**

Notation on tag: Oats of Mao-min-ngau. (From a very cold section.)

**21234. AVENA SATIVA.****Oats.**

Notation on tag: Oats of Ning-t'iao-leang. (Locality four days' journey southeast of Yu-lin-fou.)

"Since the locality in which we live (Hadjoo, Mao Ming-ngan) is relatively cold, oats are sown here during the first days of May. They take 120 days to mature. When the season is not dry they grow exceedingly well, by preference in soil worked in the spring of the sowing, contrary to wheat, which gives the best yield in soil worked in the autumn

## 21231 to 21234—Continued.

previous. The great enemy of oats here is the smut, or black rust. The Chinese combat this in this way:

"They put the oats into a small, well-heated kettle together with 4 ounces of juniper (chaotsiou) to the measure (teou) of 18 t'oungs (say, 6 t'oungs more to the teou than the Peking teou). In order to mix the two thoroughly the kettle is shaken smartly after the manner of winnowing, and then permitted to rest for a few moments.

"Without this precaution smut works havoc here. Because of the scarcity of oats in this region during the past year (the harvest has failed for several years because of drought) I got my seed from the Siao-noor. My harvest of oats succeeded badly. I think the reason of this is to be found in the climate, which is milder than that of Siao-noor. My harvest resulted in a yield which was half smut. Those who used less juniper in the preparation of the seed obtained a yield which was a little more than a third good grain. We notice here that the oats sown in fine weather give a yield very different from those sown in cold and cloudy weather; hence, the sowing should be done on fine, sunny days.

"As to the general features of our district of Moa Ming-ngan, there is a succession of undulating plains, interspersed with occasional rocky mountains. The soil is stony and in working it the plows often break. Our region is at a much greater elevation than the town of Pao-t'ou; from that point there is a two days' journey, rising continually all the way." (*François de Boeck, missionary.*)

"NOTE.—The t'oung (or t'ung) referred to by the writer seems to be the official tube, kept in the magistrate's yamen, with which to test measures of capacity.

"All efforts to secure uniform weights and measures in China have thus far proved failures. Every county seems to have its own peck and pound. The teou (or tou) mentioned is that commonly called the "peck" by foreigners. It varies in various districts from 4 liters or a little more to 42 liters. The Peking liter, to which reference is made, is perhaps that used in measuring the tribute rice, which contains  $\frac{1}{11}$  liter, or about 630.5 cubic inches—that is, about 1.17 pecks." (*Rockhill.*)

## 21235. (Undetermined.)

From Victoria, Kamerun, West Africa. Presented by Dr. A. Weberbauer.

Received July 29, 1907.

Sent in as *Sideroxylon dulcificum*. According to Prof. C. F. Wheeler it is something different.

## 21236. CEPHALOSTACHYUM PERGRACILE.

From St. Symphorien, Belgium. Presented by Mr. Jean Houzeau de Lehaie.

Received July 27, 1907.

"This plant is found growing in the Singhbhûm forests of Chota Nagpore; Sibsâgar lakhimpur and Naga Hills in Assam; all over Burma, where very common and often gregarious. A deciduous, arboreous, tufted bamboo, with glaucous-green culms 30 to 40 feet high, 2 to 3 inches in diameter, and rather thin walled, the walls usually about one-half inch thick. It is one of the chief bamboos of Burma, and one of those most frequently found in association with teak. It flowers usually gregariously, but also sporadically, though when thus flowering it rarely produces good seed, following in this the example of the male bamboo. The culms are used in building and mat making, and rice is often cooked in the joints to be easily carried on a journey. In Assam it is used for basket work." (*Gamble, Manual of Indian Timbers.*)

## 21237 to 21241.

From Peking, China. Received through Mr. E. H. Wilson, of the Arnold Arboretum, Jamaica Plain, Mass., in cooperation with this office. Received July 29, 1907.

Although these seeds came via Peking they were probably collected near Ichang, Hupeh, where Mr. Wilson had his headquarters.

**21237 to 21241—Continued.****21237. RUBUS ROSAEFOLIUS.**

"(No. 2, June 15, 1907.) An erect-growing bramble, 2 to 6 feet high, leaves pinnate. Stems square, green, reddish at base. Flowers white, 1 to 1½ inches across, borne singly and laterally. Fruits of good size, globular, red, easily separated from receptacle; flavor pleasantly sweet. Common between 1,500 feet and 3,500 feet in open, sunny thickets and grassy areas. Probably hardy in the vicinity of Washington. Possibly useful to hybridists. Its large, white flowers are very ornamental." (Wilson.)

**21238. RUBUS PLAYFAIRII.**

"(No. 4, June 15, 1907.) A rambling bramble with long scandent branches. Leaves pedately 3 to 5 foliate, dun-colored below. Flowers insignificant, borne in long panicles at ends of shoots. Fruits small, very dark red, edible but of no particular merit. Abundant between 100 feet and 2,500 feet in thickets. Probably hardy around Washington. Possibly useful to hybridists on account of its free-fruited proclivities. In foliage and habit ornamental." (Wilson.)

**21239. RUBUS CORCHORIFOLIUS.**

"(No. 15, June 15, 1907.) An erect-growing bramble. Stems arching, leaves on one-year-old shoots trifid, on two-year-old shoots simple, elliptic. Flowers white, insignificant, solitary, and lateral. Fruits raspberry-red, somewhat pointed, of good size, sweet, vinous, and of excellent flavor, easily articulating, but adhering to receptacle. Common 100 feet to 5,000 feet in open thickets and more especially abandoned cultivated areas. One of the finest of the Chinese Rubi from the point of view of its fruit. Hardy from New York south and possibly farther north. A fruit with possibilities in the hands of hybridists. Its disadvantage is that the receptacle, though small, firmly adheres to the fruit." (Wilson.)

**21240. RUBUS CORCHORIFOLIUS.**

"(No. 15a, June 15, 1907.) This is in all probability the same as No. 15 (S. P. I. No. 21239), but the fruits were all purchased in a mountain village, altitude 3,000 feet." (Wilson.)

**21241. ARUNDINARIA WILSONI (?)****Bamboo.**

"(No. 30, June 19, 1907.) An erect-growing bamboo, forming impassable thickets on sparsely tree clad mountains between 500 feet and 8,500 feet. Culms thin, dull green, 2 feet to 10 feet high. Leaves 5 to 8 inches long, one-half inch broad. Flowers in panicles. Only flowering culms die. Grain eaten locally by peasants when obtainable. The periods of flowering are erratic as far as I can find out. Hardy and ornamental. Culms useful for paper making." (Wilson.)

**21244. MACADAMIA TERNIFOLIA.****Queensland nut.**

From Burringbar, Tweed River, New South Wales, Australia. Presented by Mr. B. Harrison. Received July 13, 1907.

(See S. P. I. No. 18382 for description.)

**21245. NEPHELIUM GLABRUM.**

From Manila, P. I. Presented by Mr. Wm. S. Lyon, horticulturist, Bureau of Agriculture. Received July 19, 1907.

"One of the finest fruits in the Philippines." (Lyon.)

**21246. BASSIA LATIFOLIA.****Mahwah tree.**

From Sibpur, Calcutta, India. Presented by Prof. A. T. Gage, superintendent of the Royal Botanic Garden, through Mr. David Fairchild. Received July 31, 1907.

The Mahwah tree furnishes a hard and strong timber used for the wheels of carriages, etc. The flowers are sweet tasting and are eaten raw; the Beehls

**21246—Continued.**

are stated to collect and dry them as a staple article of food. The flowers are also used in the distillation of an ardent spirit. The seeds yield an oil used by the poorer classes for lamps, in the manufacture of soap, and for culinary purposes. (*Adapted from Gibson.*)

**21248. MACADAMIA TERNIFOLIA.****Queensland nut.**

From Sydney, New South Wales. Received from Messrs. Anderson & Co., at the Plant Introduction Garden, Chico, Cal., August, 1906.

(See S. P. I. No. 18382 for description.)

**21249. MACADAMIA TERNIFOLIA.****Queensland nut.**

From Brisbane, Australia. Received from Prof. F. M. Bailey, colonial botanist, Department of Agriculture, at the Plant Introduction Garden, Chico, Cal., April 26, 1907.

(See S. P. I. No. 18382 for description.)

**21250. CASTANOPSIS CHRYSOPHYLLA.**

From Willits, Cal. Secured by Mr. Edward Goucher, of the Plant Introduction Garden, Chico, Cal., October 30, 1906.

**21251. JUNCUS EFFUSUS.****Matting rush.**

From Okayama, Japan. Received through Mr. John H. Tull, special agent, at the Plant Introduction Garden, Chico, Cal., October, 1906.

"A semiaquatic rush, found growing wild in the Temperate Zone almost all around the world. Some forms grow to a height of 4 or 5 feet and are rather coarse and stiff in structure, while other forms are smaller in diameter and only 1 or 2 feet in height.

"In the southern part of the main island of Japan, principally in Bingo province, and in many parts of northern China and Korea it is cultivated in the paddy fields for the purpose of making floor mattings of various kinds. The form used over there would seldom exceed 2 feet in height if planted wild, but when cultivated is often found 5 feet in height, while at least 33 per cent of the plants are generally 4 feet or over in height.

"The plant is a perennial and always propagated by root division, as it can be multiplied rapidly by this means.

"As it is grown in the same fields in which rice is grown, the crop must be planted, grown, and harvested within six months in order that a crop of rice may be produced on the same land in the same year.

"After the rice is harvested in the fall the land is prepared and immediately planted with small clumps of rush that have been subdivided from large clumps and saved for stock plants from the last year's crop. These are planted by hand in the soft mud about 8 or 10 inches apart each way and are immediately flooded with water to a depth of about 2 inches. The crop is heavily fertilized with night soil, manures of various kinds, and commercial fertilizers, the principal forms being night soil and bean cake, the latter being imported from China. At harvest time—generally July—the stems are cut by hand with a sickle and tied into bundles about a foot in diameter. As soon as cut, while the stems are still green, they are completely covered with a thin clay mixture by dipping them into a thick clayey solution produced by mixing a white clay gotten from the near-by mountains and water. After dipping they are spread out in the hot sun to cure, the clay on the stems preventing them from turning and causing them to cure to a uniform color. After curing, which takes about two days of hot sunshine, they are gathered into bundles and stored in an open airy shed to remain until the farmer has planted his rice crop for that season. After that they are assorted into proper lengths and are ready to be woven into mattings, hats, small mats, etc.

"These roots were collected in and around the towns of Onomechi and Okayama, in Bingo and Bizen provinces. They were shipped in bamboo crates packed in sphagnum moss. They were packed about September 20, shipped on October 2, and unpacked about a month later. There were possibly 35,000 good roots saved, though by dividing the root clumps any number of plants desired could be had." (*Tull.*)



21252. *CYPERUS TEGETIFORMIS*.

Matting sedge.

From Beppu, Kiushiu Island, Japan. Received through Mr. John H. Tull, special agent, at the Plant Introduction Garden, Chico, Cal., January 4, 1907.

"A semiaquatic perennial sedge found wild in warmer parts of the Temperate Zone in Asia.

"In south middle China and in the island of Kiushiu, Japan, it is cultivated for its long stems, of which different grades of matting are made.

"The plants are grown in the low paddy fields where rice is grown and are generally grown in several inches of water, though by planting the roots in low moist land and heavily mulching them with rice straw to preserve moisture and prevent the weeds from crowding them out a very successful crop can be produced. These roots are preserved the same as the *Juncus effusus* roots, by saving them from the last year's crop, and when ready to plant are divided into small clumps, each clump containing several 'eyes.'

"They are planted about 5 inches apart each way and are then flooded with water to a height of about 2 inches. The fertilizer is put on very heavy, being divided into several applications during the growing season.

"In about five months after planting the stems are ready to harvest, being at that time from 4 to 6 feet high. These stems are harvested green by hand with a sickle and tied into bundles. In the evening the family all get busy and these stems are all split longitudinally several times by drawing through them a taut, fine wire.

"After splitting they are exposed three successive days to the hot sunshine, which cures them.

"They are then cut to the proper length,  $3\frac{1}{2}$  feet, for weaving matting a yard wide.

"About 90 large boxes of these roots were collected near Beppu, Bungo province, Kiushiu, Japan. They were packed about November 15 and shipped via both tram and boat to Nagasaki, and then to San Francisco.

"It was estimated that about 80,000 roots were alive on January 8, 1907, when unpacked, but by making smaller divisions many more plants could have been produced, as they are multiplied by root division." (Tull.)

21253. *PYRUS SINENSIS*.

Pear.

From Peking, China. Received through Mr. Frank N. Meyer, agricultural explorer, at the Plant Introduction Garden, Chico, Cal., February 20, 1906.

"(No. 99a.) Seeds of the most remarkable pear of North China. Looks and smells like a quince, but has melting meat and tastes very good. (Chinese name *Ta kwan li*.)" (Meyer.)

21254. *PYRUS SINENSIS*.

Pear.

From China. Received through Mr. Frank N. Meyer, agricultural explorer, at the Plant Introduction Garden, Chico, Cal., February 20, 1906.

"(No. 127a.) Pear seeds from everywhere. In all probability some interesting varieties will appear from these seeds." (Meyer.)

21255. *NANDINA DOMESTICA*.

From Hanchau, China. Received through Mr. Frank N. Meyer, at the Plant Introduction Garden, Chico, Cal., April 22, 1906.

"(No. 224a, Mar. 5, 1906.) Seeds of 'heavenly bamboo.' An evergreen shrub bearing bunches of beautiful scarlet-colored berries in winter. The Chinese use the stalks with berries for house decoration at the Chinese New Year, for which purpose they are splendidly adapted." (Meyer.)

21256. *CALLISTEPHUS HORTENSIS*.

China aster.

From Wu-tai-shan, Shansi, China. Received through Mr. Frank N. Meyer, agricultural explorer, at the Plant Introduction Garden Chico, Cal., April 22, 1907.

"(No. 725a.) Seeds of an annual flower called *Hsi hua*. Obtained from a priest at the Ta Yuen Sze temple at Wu-tai-shan." (Meyer.)

**21257. ANONA sp. (?)**

From Tula, Vera Cruz, Mexico. Presented by Mr. Edward Everest, through Mr. O. W. Barrett. Received August 7, 1907.

"*Aguatoso*, a fruit which resembles the cherimoyer in appearance." (Everest.)

**21258 to 21260. PHOENIX DACTYLIFERA.****Date.**

From Bagdad, Arabia. Received through Mr. William C. Magelssen, American consul, August 9, 1907.

21258. *Ascherasi*.21260. *Maktum*.21259. *Zehedi*.

Date seeds from which to propagate seedling date orchards.

**21261. XANTHORRHOEA TATEANA.****Australian grass-tree.**

From Melbourne, Australia. Presented by Mr. W. R. Guilfoyle, director, Botanic Gardens, through Mr. David Fairchild. Received August 6, 1907.

**21262. LAGENARIA VULGARIS.****Gourd.**

From Columbia, Isle of Pines. Presented by Dr. F. R. Ramsdell. Received August 12, 1907.

"*Upo*. Grown from seeds procured from Mr. W. S. Lyon, Manila Bureau of Agriculture, who says fruits are to be eaten green, like summer squash. The one from which this seed was procured was 2 feet long, of a beautiful white color, smooth, and was tender until full grown. Instead of drying up like a gourd the meat, 2 inches thick, retained its consistency and was cooked and eaten weeks after it was ripe. It was not very good ripe, being very like watermelon rind, but when preserved was found to be very nice. It should be eaten when nearly grown but still tender." (Ramsdell.)

**21263 to 21266. COLOCASIA ANTIQUORUM.**

From Buitenzorg, Java. Presented by Dr. M. Treub, director of the Department of Agriculture. Received August 13, 1907.

A collection of four varieties, marked, respectively, Nos. 1, 2, 3, and 4: 1 and 2, *Tales ketan*; 3 and 4, *Tales belang*.

**21267 to 21268.**

From Poole, Trinidad. Received through Mr. O. W. Barrett, Port of Spain, Trinidad, August 15, 1907.

21267. *DIOSCOREA* sp.**Yam.**

"A cultivated variety apparently distinct from any now in the collection of the Department and said to be of excellent quality." (Barrett.)

21268. *BROWNEA COCCINEA* (?)

"A tree of the virgin forest; flowers large, red." (Barrett.)

**21276. GARCINIA MANGOSTANA.****Mangosteen.**

From Peradeniya, Ceylon. Received from Mr. H. F. MacMillan, Royal Botanic Gardens, Peradeniya, Ceylon, August 22, 1907.

"Seed of the well-known delicious fruit tree of the eastern Tropics." (Fairchild.)

**21277. GYMNOCCLADUS CHINENSIS.**

From Ning-po, China. Received through Mr. Frank N. Meyer, agricultural explorer, August 24, 1907.

"(No. 738a, July 5, 1907.) One of the soap trees of which the pods are used as a substitute for soap with which to wash ladies' hair in China. Seeds formerly sent under Nos. 202a and 203a (S. P. I. Nos. 18432 and 18433)." (Meyer.)



**21278. PAPAVER SOMNIFERUM.****Opium poppy.**

From Shanghai, China. Received through Mr. Frank N. Meyer, agricultural explorer, August 24, 1907.

"(No. 736a, July 22, 1907.) The ordinary variety of opium poppy as grown in the southeastern part of Chehkiang province in China. Obtained from Dr. H. G. C. Hallock, S'hai." (Meyer.)

**21280. CANARIUM COMMUNE.**

From Buitenzorg, Java. Presented by Dr. M. Treub, August 21, 1907.

See S. P. I. No. 20808.

**21283. COLOCASIA ANTIQUORUM.****Taro.**

From Buitenzorg, Java. Presented by Dr. M. Treub, director of the Department of Agriculture, August 30, 1907.

"Malay name *Talus pandan*." (Treub.)

**21284. CITRUS sp. (?).**

From Tula, Vera Cruz, Mexico. Presented by Mr. Edward Everest, manager of the Commonwealth Plantation Company, through Mr. O. W. Barrett, August 30, 1907.

Sent in as "*Limoncillo*" by Mr. Everest.

**21285 to 21297.**

From Bombay, India. Received from Messrs. Latham & Co., through Prof. C. V. Piper. Received September 4, 1907.

A collection of legumes; the notes were received with the seeds.

**21285. DOLICHOS BIFLORUS.****Kulthi.**

Vernacular name, *Kollu-Karoopoo niram*. A black-seeded variety from Madras province.

**21286. DOLICHOS BIFLORUS.****Kulthi.**

Vernacular name, *Kollu-Samhal niram*. A gray-seeded variety from Madras province.

**21287. PANICUM COLONUM.**

Vernacular name, *Sicank*. From Pimjale province.

**21288. PISUM ARVENSE.****Field pea.**

*Bangalia*. Vernacular name, *Mattar*. From Agricultural Department, United Provinces, Cawnpore, India.

**21289. PISUM ARVENSE.****Field pea.**

*Desi*. Vernacular name, *Mattar*. From Agricultural Department, United Provinces, Cawnpore, India.

**21290. PISUM ARVENSE.****Field pea.**

*Kabilya*. Vernacular name, *Mattar*. From Agricultural Department, United Provinces, Cawnpore, India.

**21291. PHASEOLUS CALCARATUS.**

*Lobiya*. From Department of Land Records and Agriculture, Rangoon district, Burma, India.

**21292. VIGNA CATJANG.****Cowpea.**

Vernacular name, *Lal-rawani*. A reddish variety.

**21293. VIGNA CATJANG.****Cowpea.**

Vernacular name, *Rawan*. A white and brown mixture from Pimjale province.

**21285 to 21297—Continued.**

**21294. VIGNA UNGUICULATA.** Cowpea.

Vernacular name, *Carramunny-pyre*. From Madras province.

**21295. VIGNA UNGUICULATA.** Cowpea.

Vernacular names, *Harwanh chata*, *Naki rawani*, and *Gungi rawani*. From Pimjale province.

**21296. VIGNA CATJANG.** Cowpea.

*Chowlee*. From Department of Land Records and Agriculture, Rangoon district, Burma, India.

**21297. VIGNA UNGUICULATA.** Cowpea.

Vernacular names, *Lobia*, *Rawan*, and *Rawang*. From Pimjale province.

**21298. MELOCANNA BAMBUSOIDES. (?) Bamboo.**

From Darjeeling, Bengal, British India. Presented by Mr. W. A. Kennedy, curator, Lloyd Botanic Garden, through the Bengal Forest Department. Received September 5, 1907.

(See description under S. P. I. No. 21347 for comparison.)

**21299 and 21300.**

From Piracicaba, São Paulo, Brazil. Received from Dr. J. William Hart, director of the Agricultural College, through Prof. C. V. Piper, August 31, 1907.

**21299. VIGNA UNGUICULATA.** Cowpea.

*Macassar* or *Blue* cowpea. "Less vigorous at first, but ultimately out-classes other varieties in vigor and productiveness. Locally known as *Feijão macassar*." (*Hart*.) (See also S. P. I. No. 21006.)

**21300. MUCUNA GIGANTEA.** Velvet bean.

"Ripens one month later than the ordinary velvet bean." (*Hart*.)

**21302. DAUCUS CAROTA. Carrot.**

From Soochow, China. Presented by Dr. W. H. Park, of the Soochow Hospital, through Mr. F. N. Meyer, agricultural explorer. Received August 29, 1907.

"Found on inquiry not to grow in this part of China, but in the northern part of this province in the deep, loose soil of the Yellow River. Original seed bought from a peddler and planted in the garden, and these seeds were collected from two plants grown from them. On account of its great length of over a foot or more it needs deep soil. *Yellow River* carrot or *Chinese Wonder* suggested as varietal names." (*Park*.)

"There are several varieties of carrot which might come under this description, but probably those sent are what are known as *Yellow Belgium* in this country. There is another called *Long Lemon-Colored*. I don't think any of them are very desirable, at least here where a darker colored sort is preferred." (*W. W. Tracy, sr.*)

**21306 and 21307.**

From Wellington Point, Brisbane, Queensland, Australia. Presented by Mr. James Pink. Received September 9, 1907.

**21306. CITRUS AUSTRALASICA.** Finger lime.

"This citrus is very local in its distribution and, so far as I know, is found only on the slopes of Tambourine Mountain, about 80 miles south from Brisbane." (*Pink*.) (See also S. P. I. Nos. 14993 and 18550.)

**21307. RUBUS sp.** Raspberry.

*Federal.*

**21308 to 21310. GLADIOLUS sp.****Gladiolus.**

From Nylstroom (Waterberg), Transvaal. Received from Barlow, Chandler & Co., Eden Nurseries, September 10, 1907.

The following gladioli were procured for Mr. T. H. Kearney's cytological work: 21308 (B., C. & Co. No. 1); 21309 (B., C. & Co. No. 2); 21310 (B., C. & Co. No. 3.).

**21311. ZEA MAYS.****Corn.**

From Bloemfontein, Orange River Colony. Presented by Mr. S. Galbraith, government agronomist, through Prof. C. V. Piper. Received September 11, 1907.

*Apache.* "The *Apache* corn from Central America promises to revolutionize our mealie (corn) production. This year I had only one-twentieth acre growing and the yields are very great, being 7,660 pounds (cobs and grain) per acre, a marvelous yield for this country, since the average yield is about 3 to 10 sacks (200 pounds) per morgen. Should the *Apache* mealie continue to yield as at present I will have some satisfaction after so much disappointment from drought and locusts. I might state that the weights quoted are those of the newly harvested cobs." (Galbraith.)

**21312 to 21316.**

From Pretoria, Transvaal. Presented by Prof. J. Burtt Davy, agrostologist and botanist, Transvaal Department of Agriculture, through Prof. C. V. Piper. Received September 9, 1907.

**21312. CHLORIS VIRGATA.**

**21315. CHLORIS GAYANA.**

**21313. ERAGROSTIS CURVULA.**

**21316. PASPALUM SCROBICULATUM.**

**21314. CHAETOCILLOA NIGRIBROS-  
TRIS.**

**21317. BAMBUA ARUNDINACEA.****Bamboo.**

From Sibpur, Calcutta, India. Presented by Capt. A. T. Gage, superintendent, Royal Botanic Garden, through Mr. David Fairchild. Received September 13, 1907.

"This plant is found growing throughout India, Burma, and Ceylon, except in the Himalayan and sub-Himalayan tract and the valleys of the Ganges and the Indus; often cultivated and very ornamental.

"A magnificent species, at once recognized by its thorns and its peculiar culm sheaths. The culms are rather soft wooded though stout, and are bright green. They reach 80 to 100 feet in height and 6 to 7 inches in diameter, and have cavities in diameter nearly one-third of that of the culms. The forests are difficult to work because the culms interlace so much and are so much mixed up with thorny branchlets that they can not easily be extracted singly. They are used for building, mats, baskets, and all sorts of purposes. Flowering years occur at intervals of about thirty years in any given locality, and the seed is eagerly sought for as food. The leaves are sometimes attacked by an aphid, *Oregma bambusae*, which covers them with a black, sticky gum. Weight of wood, 45 to 50 pounds per cubic foot." (Gamble, *Manual of Indian Timbers*.)

"This bamboo certainly endures a temperature of 40° F. and it is believed that it would stand a few degrees of frost, as it grows well at Dehre Dun, where a slight frost is occasionally experienced." (W. W. Smith, of the Royal Botanic Garden.)

**21318. GREIGIA SPHACELATA.****Chupon.**

From Coronel, Chile. Presented by Mr. Teodoro Finger. Received September 12, 1907.

"'Chupon de Chile.' Fruit edible and odorous; people are very fond of it. Prefers wet soil, not too poor, and not too cold or hot." (Finger.)

## 21318—Continued.

"Highly recommended as a decorative plant for the hothouse. It can not compare with other Bromeliads for its flowers, but is a handsome plant for its foliage. Leaves crowded into a head, at first erect then gracefully drooping, of leathery texture, barely an inch wide and 3 feet in length. Flowers borne on spikes in the axils of the lower leaves." (*Gartenflora*, Vol. XIV, p. 137, 1865.) (See also S. P. I. No. 3361.)

## 21319 and 21320.

From Ichang, China. Secured by Mr. E. H. Wilson, of the Arnold Arboretum, Jamaica Plain, Mass., in cooperation with this Department. Received September 18 and 19, 1907.

## 21319. RHEUM sp.

## Rhubarb.

"(No. 101.) The medicinal rhubarb of western Hupeh. It occurs wild in woods above 7,000 feet, but is now extremely rare. It is sparingly cultivated by the peasants in the mountains at altitudes between 6,000 and 8,000 feet. The seeds sent are from plants cultivated at 6,500 feet in the Hsing-shan district. The quality of this Hupeh rhubarb is poor and its market value low as compared with the Szechuan drug." (*Wilson*.)

## 21320. FRAGARIA DUCHESNE.

## Strawberry.

"(No. 102.) There are two strawberries in the mountains here above 4,000 feet altitude—one the common *Hantboney* (*Fragaria elatior*); the other a red-fruited woodland variety of good flavor. The seeds sent are in all probability of the latter species, but since I did not gather them myself, I am not absolutely certain." (*Wilson*.)

## 21321. PANICUM SPECTABILE.

From Piracicaba, São Paulo, Brazil. Presented by Dr. J. W. Hart, director of the Agricultural College, through Prof. C. V. Piper. Received July 19, 1907.

## 21322 to 21327.

From Georgetown, British Guiana. Presented by Prof. A. W. Bartlett, government botanist, Botanic Gardens, through Prof. C. V. Piper. Received August 12, 1907.

## 21322. PACHIRA INSIGNIS.

## 21325. INDIGOFERA ANIL.

## 21323. PACHIRA AQUATICA.

## 21326. CROTALARIA INCANA.

## 21324. SOPHORA TOMENTOSA.

## 21327. CLITORIA ARBORESCENS.

## 21329 to 21346.

From Richmond, New South Wales, Australia. Presented by Mr. H. W. Potts, principal, Hawkesbury Agricultural College. Received July 13, 1907.

## 21329. ANDROPOGON AFFINIS.

## 21339. PANICUM DECOMPOSITUM.

## 21330. ANDROPOGON INTERMEDIUS.

## 21340. PANICUM EFFUSUM.

## 21331. ANDROPOGON PERTUSUS.

## 21341. PANICUM FLAVIDUM.

## 21332. CHLORIS TRUNCATA.

## 21342. PANICUM GRACILE.

## 21333. DANTHONIA PENICILLATA.

## 21343. PANICUM TRACHYRHACHIS.

## 21334. ERAGROSTIS PILOSA.

## 21344. PASPALUM BREVIFOLIUM.

21335. ERAGROSTIS PILOSA (?).  
(Perennial variety.)

## 21345. PASPALUM SCROBICULATUM.

## 21336. ERAGROSTIS LEPTOSTACHYA.

21346. ANDROPOGON AUSTRALIS.  
From Inverill, New South  
Wales.

## 21337. ERAGROSTIS BROWNEL.

## 21338. MICROLAENA STIPOIDES.

**21347. MELOCANNA BAMBUSOIDES.****Muli bamboo.**

From Chittagong, British India. Presented by Deputy Conservator of Forests, Chittagong division, through Mr. W. F. L. Tottenham, Conservator of Forests, Bengal, India. Received September 20, 1907.

"The culms reach a height of 50 to 70 feet, with a circumference of 12 to 13 inches at the base.

"It has been stated that *M. bambusoides* dies immediately after fruiting, but Doctor Anderson, superintendent of the botanic gardens at Calcutta, states that in no case of which he was aware during the flowering period of 1857-58 did a general death of the bamboo follow. The foliage almost entirely disappeared during the flowering, and the flowering shoots died, but they were replaced by young shoots.

"The fruit is very curious in form and size as compared with other bamboos. The true seed inside the pericarp, about the size and shape of a betel nut (small pear), is very pleasant eating and not at all austere, though without much flavor. The natives declare the whole fruit is edible after baking." (*Theobald. From Colonel Munro's monograph of the Bambusaceae.*)

**21349. BAMBUA VULGARIS.****Bamboo.**

From Cannes, France. Received from M. Jh. Augier Gerant, Villa les Cocotiers. Received September 23, 1907.

"The Bamboo *thouarsii* sprouts only in winter—at the end of September. The cold freezes the new stems rather frequently. The old stems can resist a temperature of  $-6^{\circ}$  C., while the new stems have been known to freeze at  $-3^{\circ}$  C." (*Gerant.*)

**21350 to 21356.**

From Teyhampett, Madras, India. Presented by Mr. B. F. Cavanagh superintendent of the Agri-Horticultural Society, through Prof. C. V. Piper. Received July 13, 1907.

The following seeds, with Tamil names in italic:

**21350. CAJANUS INDICUS.** Pigeon pea.  
*Thovvaroc.*

**21351. CICER ARIETINUM.** Chick pea.  
*Kadalai.*

**21352. DOLICHOS LABLAB.** Hyacinth bean.  
*Mockakottac.* White seeded.

**21353. DOLICHOS BIFLORUS.** Kulthi.  
*Karapa kollu.* Black seeded.

**21354. DOLICHOS BIFLORUS.** Kulthi.  
*Kollu-sambal.* Gray seeded.

**21355. PHASEOLUS VULGARIS.** Bean.  
*Nattu.* The brown bean of the country.

**21356. PHASEOLUS VULGARIS.** Bean.  
*Vallay.* White bean.

**21357 to 21360. ALOCASIA CUCULLATA.****Taro.**

From Island of Guam. Presented by Mr. H. L. W. Costenoble, superintendent, Agricultural Experiment Station, U. S. Naval Station, through Mr. O. W. Barrett. Received September 26, 1907.

A collection of taros, or "smes," by which latter name they are known in the island of Guam. The local varietal name by which they are grown in that island is given under each number. Plants received under synonym of *Caladium colocasia*.

**21357. *Visaya apaka.***

**21359. *Mamla atilon.***

**21358. *Visaya* sp.**

**21360. *Panemia agaga.***



**21361. PANICUM MOLLE.****Para grass.**

From Santos, Brazil. Presented by Mr. W. H. Lawrence, American vice-consul, through Prof. C. V. Piper. Received September 25, 1907.

**21364 to 21367.**

From Sydney, New South Wales. Received from Messrs. Anderson & Co., 399 George street, San Francisco, Cal., October 1, 1907.

**21364. BROMUS UNIOLOIDES.****Rescue grass.**

South coast of New South Wales—dairying districts between Sydney and the Victorian border.

**21365. DACTYLIS GLOMERATA.****Orchard grass.**

New Zealand, Canterbury district.

**21366. PHLEUM PRATENSE.****Timothy.**

New Zealand grown.

**21367. FESTUCA PRATENSIS.****Meadow fescue.**

European.

**21368. SESBANIA ACULEATA.**

From Sibpur, Calcutta, India. Presented by Prof. A. T. Gage, superintendent, Royal Botanic Garden. Received September 27, 1907.

"The *Danchi*. Intra-tropical and subtropical Asia, Africa, and Australia. This tall annual plant has proved adapted even for desert regions. Has grown very vigorously in the dry Wimmera region without application of water." (*St. Eloy D'Alton*.)

"Easily grown; the produce heavy. It yields a tough fiber for ropes, nets, and cordage, valued at from 30 pounds to 40 pounds per ton. Indian experiments showed the strength 50 per cent more than the government standard there requires. A rope of 3½ inches thickness broke only at 75 hundredweight. Stem and branches sought for the best gunpowder coal." (*De Rinzi*.)

"The foliage serves as fodder. Several congeneric plants can be equally well utilized." (*F. von Mueller*.)

Introduced to compare with *Sesbania macrocarpa* as a cover and green manure crop and for the purpose of breeding with it.

**21371. CUCURBITA MAXIMA.****Squash.**

From Victoria, Mexico. Collected by Dr. Edward Palmer and presented to the Department October 1, 1907.

"'Calabaza de Castilla' (*Castile squash*.) In warm latitudes the plants hold over three or four years and are often pruned of old branches, when their productiveness is equal to that of a new plant. The young fruits, eaten as a vegetable and put into soups, are superior to summer squash. Old fruits are baked and, with a sirup of brown sugar, are used as a dessert for dinner. In its mature state the fruit is cut up into three-cornered pieces and candied, when it forms one of Mexico's finest sweets. The seeds when parched are shelled, and, with the addition of brown sugar, are made into candy, or, pulverized, are added to the stuffing of cooked chicken or turkey, and are much eaten in the manner of peanuts. The flowers (male) are put into soups or are often made into a very toothsome dish by themselves." (*Palmer*.)

**21372 to 21393.**

From Wagga-Wagga, New South Wales, Australia. Presented by Mr. G. Maurice McKeown, manager, Wagga Experimental Farm. Received October 4, 1907.

A collection of wheats, with some pedigreed oats and barleys.

**21372 to 21376. TRITICUM VULGARE.****Wheat.**

**21372.** *Silver King.*

**21373.** *Hudson's Early Purple Straw.*

**21374.** *Farmers' Friend.*

**21375.** *Marshall's No. 3.*

**21376.** *White Essex.*





**21394. EUCALYPTUS ALBA.**

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Botanic Gardens. Received October 4, 1907.

"Timor and North Australia; also New Guinea. This species proved well adapted for the lowland clime of Ceylon, growing fast and seeding freely." (Dr. Henry Trimeen.)

For experiments on the Canal Zone.

**21395 to 21471. ORYZA SATIVA.****Rice.**

From Honolulu, Hawaii. Received through Mr. F. G. Krauss, in charge of Hawaii rice investigations, Hawaii Agricultural Experiment Station, October 1, 1907.

The rice seed bearing the following numbers was raised at the Hawaii Agricultural Experiment Station in 1906 from seed furnished by this office, and in each case the original S. P. I. number of the seed from which these samples were selected is given. According to Mr. Krauss the seed is considerably improved by selection over the original stock sent to Hawaii, which was of mixed strains and of weak germination.

**21395. *Sunkhavel*.**

Grown from S. P. I. No. 8689. Original seed from India.

**21396. *Ambamore*.**

Grown from S. P. I. No. 8690. Original seed from India.

**21397. *Arong* paddy.**

Grown from S. P. I. No. 12479. Original seed from Straits Settlements.

**21398 to 21413.**

Original samples from British Guiana. They are distinguished by numbers only.

**21398.** Grown from S. P. I. No. 12490.

**21399.** Grown from S. P. I. No. 12491.

**21400.** Grown from S. P. I. No. 12492.

**21401.** Grown from S. P. I. No. 12493.

**21402.** Grown from S. P. I. No. 12494.

**21403.** Grown from S. P. I. No. 12495.

**21404.** Grown from S. P. I. No. 12496.

**21405.** Grown from S. P. I. No. 12498.

**21406.** Grown from S. P. I. No. 12499.

**21407.** Grown from S. P. I. No. 12500.

**21408.** Grown from S. P. I. No. 12501.

**21409.** Grown from S. P. I. No. 12502.

**21410.** Grown from S. P. I. No. 12504.

**21411.** Grown from S. P. I. No. 12507.

**21412.** Grown from S. P. I. No. 12508.

**21413.** Grown from S. P. I. No. 12510.

**21414 and 21415.**

Original seed from Egypt.

**21414. *Soultani* (or *Sultani*) paddy.**

Grown from S. P. I. No. 12514 A.

**21415. *Soultani* (or *Sultani*) paddy.**

Grown from S. P. I. No. 12514 B.

## 21395 to 21471—Continued.

21416 to 21420.

Original seed from Java.

21416. *Magetan* paddy.

Grown from S. P. I. No. 12541 A.

21417. *Magetan* paddy.

Grown from S. P. I. No. 12541 B.

21418. *Pekalongan* paddy.

Grown from S. P. I. No. 12542.

21419. *Pekalongan* paddy.

Grown from S. P. I. No. 12543 A.

21420. *Pekalongan* paddy.

Grown from S. P. I. No. 12543 B.

21421.

Grown from S. P. I. No. 12766. Original seed from Korea.

21422 to 21428.

Original seed from India.

21422. *Masiua ghaiya*.

Grown from S. P. I. No. 12865.

21423. *Bhadai ghaiya*.

Grown from S. P. I. No. 12866.

21424. *Thosar Bhadai ghaiya*.

Grown from S. P. I. No. 12867.

21425. *Pakhasali Bhadai*.

Grown from S. P. I. No. 12868.

21426. *Augua Bhadai*.

Grown from S. P. I. No. 12869.

21427. Grown from S. P. I. No. 12870.

21428. *Takmaroo ghaiya*.

Grown from S. P. I. No. 12871.

21429 to 21431.

Original seed from China.

21429. *Shie-Miu*.

Grown from S. P. I. No. 12874.

21430. *Ai-Miu*.

Grown from S. P. I. No. 12875.

21431. *Laer-Chap*.

Grown from S. P. I. No. 12876.

21432 to 21442.

Original seed from Formosa.

21432. *Chieng Yu*.

Grown from S. P. I. No. 13035.

21433. *Pei Cham*.

Grown from S. P. I. No. 13036.

## 21395 to 21471—Continued.

## 21432 to 21442—Continued.

Original seed from Formosa—Continued.

21434. *Chieng Yu.*

Grown from S. P. I. No. 13037.

21435. *Kuai Kau Otowa.*

Grown from S. P. I. No. 13041.

21436. *O Cham Ko.*

Grown from S. P. I. No. 13044.

21437. *Pa Chiam.*

Grown from S. P. I. No. 13056.

21438. *O Kaku.*

Grown from S. P. I. No. 13057.

21439. *O Kaku.*

Grown from S. P. I. No. 13060.

21440. *Shun Tsui Ban.*

Grown from S. P. I. No. 13062.

21441. *Chino.*

Grown from S. P. I. No. 13064.

21442. *O Ka Hoe Rai.*

Grown from S. P. I. No. 13065.

## 21443 to 21447.

Original seed from India.

21443. *Badshah Bhog.*

Grown from S. P. I. No. 14779.

21444. *Kamod.*

Grown from S. P. I. No. 14781.

21445. *Basmati.*

Grown from S. P. I. No. 14782.

21446. *Dad Khani.*

Grown from S. P. I. No. 14783.

21447. *Ambe Mohr.*

Grown from S. P. I. No. 14784.

## 21448 to 21452.

Original seed from India.

21448. *Jeeragasamba.*

Grown from S. P. I. No. 16980.

21449. *Varikarudan.*

Grown from S. P. I. No. 16981.

21450. *Milagi.*

Grown from S. P. I. No. 16982.

21451. *Vellakattai*, or *Sirumanian.*

Grown from S. P. I. No. 16983.

21452. *Erangal*, or *Naryan.*

Grown from S. P. I. No. 16984.

## 21453.

Original seed from Texas. Grown from S. P. I. No. 17144.

## 21395 to 21471—Continued.

21454 to 21456.

Original seed from China.

21454. Grown from S. P. I. No. 17915.

21455. Grown from S. P. I. No. 17916.

21456. Grown from S. P. I. No. 17917.

21457 to 21468.

"Grown from stock seed received from Prof. Wm. S. Lyon, horticulturist in charge of Seed and Plant Introduction, Bureau of Agriculture, Manila, P. I." (Krauss.)

21457. *Binalayang*.21458. *Bencaray*.21459. *Kirikiri*.21460. *Makalit*.21461. *Continido*.21462. *Diktalacay*.21463. *Mantica*.21464. *Caritena*.21465. *Mormoray*.21466. *Enero*.21467. *Ganado*.21468. *Ay-yr-jip*. (Krauss's No. 152.)

21469 to 21471.

Hawaiian grown seed.

21469. Select Hawaiian rice. (Krauss's No. 150.)

21470. Hawaiian Gold Seed. (Krauss's No. 151.)

21471. Japan seed rice. (Krauss's No. 153.)

21472. *COSTUS* sp. (?)

Spiral flag.

From Princetown, Trinidad, British West Indies. Received through Mr. O. W. Barrett, Port of Spain, Trinidad, October 7, 1907.

"This scitamine produces a white flower about 3 inches in diameter; the spikelike head of bracts is dull crimson. Habitat wet soil, perferably along streams." (Barrett.)

"More or less fleshy plants, prized in warm houses and grown in the open in southern Florida. They thrive in any rich, moist soil, but luxuriate in that of a gravelly or sandy character when under a partial shade. The plants are readily propagated by short cuttings of the stalk planted in sifted peat or fine moss and sand. Rather high temperature is required to bring out the rich colors of the leaves." (Bailey.)

21473. *FURCRAEA* sp.

From Nice, France. Presented by Dr. A. Robertson Proschowsky, through Mr. O. W. Barrett. Received October 4, 1907.

"A kind of *Furcraea* very hardy at Nice and having strong fibers in the leaves." (Proschowsky.)

21474. *CAPSICUM FRUTESCENS*.

Bird-pepper.

From South America. Presented by Mr. Alva A. Adee, Second Assistant Secretary, Department of State, Washington, D. C. Received October 7, 1907.

"*Chile piquin* in Mexico, where it is native." (C. F. Wheeler.)



**21474—Continued.**

"They were given to me some two years ago by a multimillionaire fellow-voyager on the *Deutschland*, who used to crumble two or three of them into his soup as an agreeable condiment. He said they were sent to him from some South American country—Bolivia, I think. I enjoyed their pleasant flavor." (*Adee.*)

**21475. BRASSICA sp.****Cabbage.**

From northern Manchuria. Presented by the Yokohama Nursery Company (Limited), Yokohama, Japan. Received October 10, 1907.

*Kaijo* white cabbage.

**21476 and 21477. CYPERUS spp.**

From near Honolulu, Oahu, Hawaii. Collected by Mr. F. G. Krauss, in charge of Hawaii rice investigations, Hawaii Agricultural Experiment Station, in 1907, at the request of Mr. David Fairchild. Received October 1, 1907.

**21476. CYPERUS LAEVIGATUS.**

"*Ehūawa*. In and near sweet or brackish water, plentiful near Honolulu. A common plant in many tropical countries of the New and the Old World, extending also to the Cape of Good Hope and the Mediterranean region. The fine and highly prized Niihau mats are made of this plant." (*Hillebrand.*)

**21477. CYPERUS PENNATUS.**

"*Molokai*. The plant grows quite abundantly along the shores of brackish marshes in the neighborhood of Honolulu and elsewhere in Hawaii." (*Krauss.*)

"In the lower regions; sometimes gregarious. The species extends from the Mascarene Islands and India through Malaysia, Australia, and south China to the Philippines and most of the Pacific Islands." (*Hillebrand.*)

**21478. PANICUM MOLLE.****Para grass.**

From São Paulo, Brazil. Presented by Dr. H. M. Lane, president, MacKenzie College, through Mr. C. V. Piper. Received June 12, 1907.

"This very coarse grass is from Africa and is known here as 'Capim de Angola.' It is the *Panicum scabrum* of Lam. and the *Oplismenus spectabilis* of Kunth. Its chief value is to cut for green forage. It is almost impossible to cure it, and it is of little value for pasture." (*Lane.*)

**21481 and 21482.**

From New York, N. Y. Received through Messrs. Parke, Davis & Co. Received October 15 and 16, 1907.

**21481. PHYSOSTIGMA VENENOSUM.****Calabar bean.**

"A perennial climber, resembling the common scarlet runner, growing along the Gulf of Guinea, used there by pagan tribes in ordeal trial in witchcraft. It acts as a powerful depressant, poisonous in overdoses. The seeds from the article known on the crude drug market as Calabar bean." (*R. H. True.*)

**21482. STRYCHNOS IGNATIL.****St. Ignatius bean.**

"A large climbing shrub of the Visayan group of the Philippines. The large fruit contains several pebble-like seeds, going on the crude drug market as St. Ignatius beans. They contain the alkaloids strychnine and brucine, for the manufacture of which they are used to some extent." (*R. H. True.*)

**21483 to 21485. JUGLANS REGIA.****Persian walnut.**

From Breslau, Germany. Presented by Mr. Julius Monhaupt's Successor.  
Received October 16, 1907.

**21483. Paper.**

"A small-sized nut, with shell of medium thickness and nearly smooth."  
(*Fischer.*)

**21484. Giant.**

"A very large sized nut with thick, rough shell." (*Fischer.*)

**21485.**

"Nut not quite so large as S. P. I. No. 21484; shell thick and less rough." (*Fischer.*)

**21488 to 21499.**

From M'lanje, British Central Africa. Presented by Mr. Henry Brown,  
Thornwood estate, through Mr. O. W. Barrett. Received August 19,  
1907.

**21488. ANDROPOGON sp.****21494. PENNISETUM sp.****21489. ERAGROSTIS sp.****21495. CHAETOCHELOA AUREA.****21490. ERAGROSTIS sp.****21496. SPOROBOLUS sp.****21491. ERAGROSTIS sp.****21497. ANTHISTIRIA IMBERBIS.****21492. PANICUM (?).****21498. TRICHOPTERYX ELEGANS.****21493. PENNISETUM sp.****21499. XYRIS sp.****21504. LYGEUM SPARTUM.**

From Paris, France. Received from Messrs. Vilmorin-Andrieux & Co.,  
October 14, 1907.

"Has a creeping rhizome and stiff, rush-like, convolute leaves; in rocky soil  
on the high plains of the countries bordering the Mediterranean, especially of  
Spain and Algeria. A part of the Esparto (see *Stipa tenacissima*) is furnished  
by this plant." (*Hackel's translation from "Die Nat. Pflanzenf."*)

"Will probably be adapted to California and the Southwestern States."  
(*C. V. Piper.*)

(See S. P. I. No. 3334.)

**21505. CITRUS DECUMANA.****Pomelo.**

From "La Vega" estate, Brasso, Trinidad, British West Indies. Presented  
by Mr. Robert de Vertenil through Mr. O. W. Barrett. Received October  
22, 1907.

"A pomelo with pinkish colored pericarp." (*Barrett.*)

**21507. PIMENTA OFFICINALIS.****Allspice.**

From Kingston, Jamaica. Presented by Mr. William Fawcett, director,  
Hope Botanic Gardens. Received October 18, 1907.

Procured for experimental purposes at the request of Mr. J. G. Smith, of  
the Hawaii Agricultural Experiment Station.

**21508 to 21511. VIGNA spp.****Cowpea.**

From Arlington Farm, Rosslyn, Va. Grown during the season of 1907.  
Received October 31, 1907.

**21508.**

"Grown from seed received from the Tokyo Botanical Gardens, May,  
1907. An erect, bushy, small-seeded cowpea, representing a species (?)  
not received from any other source. The seeds of this variety are black.  
Grown under the temporary No. .0512." (*C. V. Piper.*)

**21508 to 21511—Continued.****21509.**

"From the same source as S. P. I. No. 21508 and of similar habit. Seeds dark clay color. Grown under the temporary No. .0514." (C. V. Piper.)

**21510.**

"From the same source as S. P. I. No. 21509 and very similar in habit. Seeds small white, with large black eye. Grown under the temporary No. .0515." (C. V. Piper.)

**21511.**

"Grown from seed received from Dr. S. P. Barchett, Shanghai, China, June, 1907: A black-seeded variety related to the above (S. P. I. No. 21510). Grown under the temporary No. .0521." (C. V. Piper.)

**21513. SECALE CEREALE.****Rye.**

From estate "Petkus," Baruth, Brandenburg, Germany. Received from Herr F. von Lochow, October 29, 1907.

*Petkuser.* "A pedigreed rye, produced by selection carried on for the last twenty-six years under the direction of Herr von Lochow, Petkus estate, Brandenburg, Germany, combining the best averages in the following quantities: Wintering, size and stiffness of straw, erectness of head, shape, color and plumpness of kernel, stooling, earliness of ripening, productiveness." (*Illus. Landwirtschaftliche Zeitung, April 7, 1906.*)

**21514. AVENA SATIVA.****Oat.**

From Orebro, Sweden. Presented by Mr. C. A. Hagendahl's son, through Hon. Edward L. Adams, American consul-general, Stockholm, Sweden, at the request of Mr. A. J. Pieters. Received October 29, 1907.

*Red Rustproof.*

**21515 to 21518. MANGIFERA INDICA.****Mango.**

From Port of Spain, Trinidad. Procured by Mr. O. W. Barrett. Received October 31, 1907.

**21515. *Julie.*****21517. *Martin.*****21516. *Divine.*****21518. (Label indistinct.)****21520. BERBERIS THUNBERGII × VULGARIS PURPUREA. Barberry.**

From Ottawa, Ontario, Canada. Presented by Mr. William Saunders, director of experimental farms, Central Experimental Farm. Received November 2, 1907.

**21521. DIANTHUS CARYOPHYLLUS × BARBATUS.****Carnation.**

From Miami, Fla. Procured by Mr. P. J. Wester, Subtropical Laboratory and Garden. Received November 4, 1907.

"This variety, which I found growing in a back yard a few miles out of Miami, was blooming very profusely in July, and on that account its vigor attracted my attention. A few cuttings were secured, from which several propagations have been made. The plant is exceedingly vigorous and blooms well throughout the year and does not seem to be subject to any diseases so far. The flowers are dark red. It has been distributed during the past year and a half to several people in Florida under the name *Augusta*, Lab. No. 272. All who have received it are pleased with it." (*Wester.*)

**21522 to 21529. MANIHOT spp.****Cassava.**

From Port of Spain, Trinidad. Presented by Mr. E. André. Received October 31, 1907.

**21522 to 21525. MANIHOT PALMATA.****Sweet cassava.****21522. *Butter Sticks.*****21524. *Cammanioc Blanc.*****21523. *Boujon Bleu.*****21525. *Cammanioc Rouge.***

## 21522 to 21529—Continued.

21526 to 21528.	MANIHOT UTILISSIMA.	Bitter cassava.
21526.	<i>Viour Bwai.</i>	21528. <i>Mataoutel.</i>
21527.	<i>Manioc Sir Mois.</i>	

21529.	MANIHOT sp.	Cassava.
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"Bitter kinds are always designated as *Manioc*; sweet as *Cammanioc*. Of the sweet kinds sent *Butter Sticks* is considered a very good table variety.

"Neither in Venezuela nor here are the sweet kinds grown for starch, cassava bread, or farina: they are used only as a vegetable, being boiled and buttered. Those who make a business of cassava products say that it does not pay to grow the sweet kinds." (*André.*)

## 21532 to 21540.

From Nagpur, Central Provinces, India. Presented by Mr. F. Fletcher, deputy director of agriculture, Bombay. Received October 28 and November 5, 1907.

21532.	PANICUM PSILOPODIUM.	Millet.
	<i>Kutki Raipur.</i>	
21533.	PANICUM PSILOPODIUM.	Millet.
	<i>Kutki.</i>	
21534.	PISUM ARVENSE.	Field pea.
	<i>Mattar.</i>	
21535.	VIGNA CATJANG.	Catjang.
	<i>Burbudi.</i>	
21536.	VIGNA CATJANG.	Catjang.
	<i>Burbudi.</i>	
21537.	VIGNA UNGUICULATA.	Cowpea.
	<i>Jhunga.</i>	
21538.	VIGNA CATJANG (?).	Catjang.
	<i>Jhunga.</i>	
21539.	VIGNA CATJANG (?).	Catjang.
	<i>Khed Jhunga.</i>	
21540.	PANICUM FRUMENTACEUM.	Millet.
	<i>Sauca or Sanca.</i>	

## 21542. SESBANIA AEGYPTIACA.

From Saharanpur, India. Presented by Mr. J. H. Maiden, director, Botanic Gardens, Sydney, New South Wales, through Mr. David Fairchild. Received November 7, 1907.

"Africa, southern Asia, northern and central Australia, ranging to 33° north in Afghanistan and 33° south on the Darling River, ascending to 4,000 feet in the Himalayas. By Australian pastoralists called 'pea bush.' The foliage of this tall perennial herb and of the allied annual *S. brachycarpa* serves as fodder, which cattle are ravenously fond of. According to Mr. T. Gulliver, the green pods, as well as the seeds, are nutritious, wholesome, and of pleasant taste." (*F. von Mueller.*)

## 21543 to 21545.

From São Paulo, Brazil. Presented by Mr. T. Julius Schalch. Received November 5, 1907.

## 21543. MANIHOT UTILISSIMA.

Bitter cassava.

"Manioc, a Brazilian plant growing in the Temperate Zone; produces roots 2 to 3 feet long, 3 to 4 inches in diameter; used exactly as Irish potatoes; can be boiled, baked, or fried, and is of very fine flavor. All the starch made down in that country is made of Manioc. Tapioca is also made from Manioc. It is planted on the same kind of soil as potatoes. Cut every stick in two or three pieces, 6 or 8 inches long, plant slanting on the hill about 3 or 4 feet apart. It will grow 7 to 10 feet high." (Schalch.)

## 21544. HAEMANTHUS MULTIFLORUS.

Imperial crown.

"A beautiful, delicate flower growing in the Temperate Zone. To be planted the same as any bulb. Grows very easily if the temperature is right." (Schalch.)

## 21545. PISUM sp.

Pea.

"Crooked pea is the name given in São Paulo for this kind of pea. It is a very tender, stringless variety, and can be cooked with the pods, for it is very sweet and extremely tender and makes a very palatable dish. It is planted the same as any pea and has always been raised in the Temperate Zone." (Schalch.)

## 21547. PYRUS POLLVERIA.

From Christiania, Norway. Presented by Prof. N. Wille. Received November 8, 1907.

In Gartendora, of January 15, 1905, there is an article entitled "An Account of a Supposed Graft-Hybrid Between the Pear and the Hawthorn," in which the author, von Jens Holmboe, gives a good description of this tree and attempts to clear up the mystery of its probable origin.

The tree is located in the Manor of Torp, Parish Borge, in Smaalenene, between the towns of Fredrikstad and Sarpsborg, and was planted some time in the early seventies and discovered by an apothecary late in the eighties. It was grafted on *C. oxyacantha* but has characters intermediate between those of *Pyrus* and *Crataegus*. The fruit is small and pear shaped, but red like that of *Crataegus*. The taste is insipid and also intermediate between that of the pear and the hawthorn.

To the author it seemed that this curious hybrid resembled in most of its characters *Pyrus pollveria* L. (*P. communis* L.  $\times$  *Sorbus aria* Crantz), and he states that it would be hard to separate it specifically from that species (or hybrid) on morphological characters only.

Since the foliage of some of the seedlings grown from the "Torp" tree could hardly be distinguished from that of the pear, and that of others resembled so closely that of *C. monogyna*, this form might again be considered a hybrid between *P. communis* and some species of *Crataegus* and the appearance of two distinct types in its progeny be perfectly natural. But here, too, it is mentioned that *Crataegus*-like foliage is in rare cases found among seedlings of both *P. communis* and *P. malus* and also that no *Crataegus* grew in the neighborhood which might have taken part in the cross-pollination of the flowers which gave rise to these seedlings.

Hence, according to the author, there are but two alternatives: The tree whose hybrid character admits of no doubt is either the rare *Pyrus pollveria*, which is not found anywhere outside of the Christiania Botanic Gardens, but found its way in some inexplicable manner, through a nursery located in Sarpsborg, into this garden; that the *Crataegus*-like foliage of the second hybrid generation, which in Norway has never before been observed in *P. communis* and its relatives, is due to a mutation; or that some until now entirely unknown hybrid of *P. communis*  $\times$  *Crataegus* sp. existed in this same nursery and was unintentionally grafted upon the *Crataegus oxyacantha* stock.

In concluding, the author contends that it would require an extraordinary combination of circumstances to bring either of these alternatives about and



## 21547—Continued.

that after weighing all the evidence, both for and against them, he, personally, is of the opinion that the tree in question is probably a graft-hybrid, this being the easiest way to explain its origin, since so many years have passed since the graft was made. (*Abstracted and translated from the German by W. Fischer.*)

"The tree (in the Botanic Gardens in Christiania) from which these fruits were obtained stands in the vicinity of several varieties. Cross-fertilization is thus not excluded." (*Wille.*)

## 21548. DENDROCALAMUS STRICTUS.

Bamboo.

From Sibpur, Calcutta, India. Presented by Mr. A. T. Gage, superintendent, Royal Botanic Garden, through Mr. David Fairchild. Received November 11, 1907.

"A very useful and strong bamboo of India, formerly used universally for spear shafts. The plant flowers frequently and does not die down after flowering, as is the case with so many bamboos. The culms are said sometimes to reach a height of 100 feet in the valleys and 40 feet on the hills." (*From Colonel Munro's Monograph of the Bambusaceae.*)

"This bamboo is common in parts of the province of Punjab, India, where the climate is very dry in summer and quite cool in winter, the temperature occasionally falling below freezing." (*Fairchild.*)

## 21551. CITRUS NOBILIS.

Mandarin.

From Pretoria, Transvaal. Presented by Prof. J. Burt Davy, botanist, Transvaal Department of Agriculture. Received November 18, 1907.

"Naartje. This is a kind of mandarin which to my mind has a much better flavor than the ordinary tangerine of the Mediterranean; the fruit is larger and the skin can be removed quite as easily. I am under the impression that it comes fairly true to seed, but even if this should prove not to be the case, you may find the stocks of some use and the drought and frost resistance of the plant may render it useful for hybridizing or grafting purposes." (*Davy.*)

"The naartje has been produced in Cape Colony for the last two hundred years or more. It is difficult to say whence it came originally, but more than likely from the Dutch East Indies. I do not know of any orange under cultivation either in Florida or California which is the exact counterpart to the fruit which we grow here.

"We have introduced most of the varieties grown in America, and up to the present time none of them, with the exception of Satsuma, have shown the same hardiness and drought-resisting qualities as the original varieties in Cape Colony.

"With regard to their resistant powers against frost, I have seen old trees which have stood 15 degrees of frost with very little injury either to the tree or to the crop, and I consider for our purposes that they are the best fruits of the kind which we can grow in this colony. The trees as seedlings attain large sizes—from 16 to 18, and sometimes 20, feet—and they bear a striking resemblance to an ordinary seedling orange in growth. The two varieties are named locally the *Platskill* and *Groenskil*. The meaning of the first word is 'flat or smooth skin,' and it appears also to apply to the shape of the fruit. The skin of this variety adheres closely to the segments, and there is never any of the pithiness which accompanies so many varieties of mandarins; although so closely adhering, it can be easily removed with the thumb and finger, but it is not exactly what one would call a 'kid-glove' orange.

"The word *Groenskil* means green skin, and the fruit of this variety bears more resemblance to the Emperor mandarin perhaps than to most others. It hangs for a long time on the trees in good condition and is the latest ripening variety we have. It is also more hardy than the *Platskill*." (*R. A. David, Transvaal Department of Agriculture.*)

## 21552 to 21557. DAHLIA spp.

Dahlia.

From Mexico City, Mexico. Collected by Prof. C. G. Pringle on Sierra de Ajusco, a mountain on the south side of the Valley of Mexico, at an altitude of 8,500 feet, by request of Mr. David Fairchild. Received November 16 and 19, 1907.

Seeds and plants secured for hybridizing purposes.



## 21552 to 21557—Continued.

21552 and 21553. DAHLIA COCCINEA.

Dahlia.

"This species varies in color from lemon yellow to brick red."  
(Pringle.)

21554 and 21555. DAHLIA MERCKII.

Dahlia.

"This species varies in color from white to purplish." (Pringle.)

21556 and 21557. DAHLIA VARIABILIS.

Dahlia.

"This species varies in color from deep purple to yellow with light purple tips." (Pringle.)

"The last three species were found growing in profusion on a lava field." (Pringle.)

"It appears as if *Dahlia coccinea* and *Dahlia merckii* have never been improved by crossing or even crossed on other species." (G. W. Oliver.)

## 21558 to 21565. VIGNA spp.

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Botanic Gardens. Received November, 1907.

The Malay names and descriptions accompanied the seeds.

21558. VIGNA SESQUIPEDALUS.

*Katjang pandjang*. Striped seeds.

21559. VIGNA SESQUIPEDALUS.

*Katjang Dadap*. Uniform seeds.

21560. VIGNA SESQUIPEDALUS.

*Katjang Belaet*. Striped seeds, brown colored.

21561. VIGNA SESQUIPEDALUS.

*Katjang Dadap*. Uniform brown seeds.

21562. VIGNA SESQUIPEDALUS (?).

*Katjang Dadap*. Brown speckled seeds.

21563. VIGNA CATJANG.

*Katjang Roedji*. Brown seeds.

21564. VIGNA CATJANG.

*Katjang Roedji*. Uniform light green color.

21565. VIGNA CATJANG.

*Katjang Landes*.

## 21566 and 21567. MUCUNA spp.

From Kingston, Jamaica. Presented by Dr. William Fawcett, director, Hope Botanic Gardens. Received Nov. 18, 1907.

21566. MUCUNA PRURIENS.

Cow-itch bean.

21567. MUCUNA URENS.

Horse-eye bean.

## 21568 and 21569. VIGNA SESQUIPEDALUS (?).

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Botanic Gardens. Received Nov. 21, 1907. (See Nos. 21558 to 21565.)

21568. *Katjang Belaet*. Brown speckled seeds.21569. *Katjang Dadap*. Light speckled seeds.

**21570 and 21571. RUBUS spp.****Raspberry.**

From Shanghai, China. Presented by Rev. J. M. W. Farnham, D. D., Chinese Tract Society. Received Oct. 23, 1907.

**21570.**

"Native wild black raspberry from Mokuunshan, China." (*Farnham.*)

**21571.**

"Seeds of a wild raspberry." (*Farnham.*)

**21572. JACQUEMONTIA PENTANTHA.**

From Miami, Fla. Collected by Mr. P. J. Wester, special agent, Subtropical Laboratory and Garden. Received Nov. 23, 1907.

"Lab. No. 500. This plant is a perennial vine, moderately vigorous, and is native to the Florida Keys. The leaves are dark green, the flowers bright blue, about 2 centimeters in diameter, and one of the most dainty flowers I have ever seen. One to four flowers at a time open on the cyme, which contains several dozen flower buds. The plant is exceedingly floriferous, and I am sure that, being so distinct from all other flowers on climbing plants, it will prove an interesting acquisition to ornamental climbers." (*Wester.*)

**21573. ANONA sp.**

From Toco, Trinidad, British West Indies. Received through Mr. O. W. Barrett, Port of Spain, Trinidad, Nov. 25, 1907.

"Seeds of an *Anona* nearly related to *Anona squamosa*; fair fruit." (*Barrett.*)

**21574 to 21582.**

From Alexandretta, Turkey. A collection of seeds of leguminous plants made by Mrs. F. A. Shepard, American Medical Mission, Aintab, Turkey, at the request of Mr. David Fairchild. Received Oct. 18, 1907.

"The following are seeds of plants that grow on our arid hills and that the animals eat with avidity." (*Shepard.*)

**21574. MEDICAGO TRIBULOIDES.**

**21577. TRIGONELLA RADIATA.**

**21575. MEDICAGO LUPULINA.**

**21578. TRIGONELLA CRASSIPES.**

**21576. MEDICAGO TUBERCOLATA (?).**

**21579. TRIGONELLA MONANTHA.**

"The following seeds I found at a village near the Amanus Mountains. These are used as fodder by the villagers in that region. They are dried for the animals for winter, and the peas are ground up and fed to cattle." (*Shepard.*)

**21580. VICIA sp.**

**21582. VICIA sp.**

*Yonja.*

*Pakla.*

**21581. VICIA sp.**

*Kushne.*

**21583. CITRUS LIMONUM.****Lemon.**

From Riverside, Cal. Presented by Mr. James Mills, superintendent, Arlington Heights Fruit Company. Received November 25, 1907.

*Villa Franca.* The above cuttings were procured for Mr. D. W. May, Porto Rico Agricultural Experiment Station, Mayaguez, Porto Rico.

**21584 to 21593.**

From Bodoe, Tromsø, Norway. Received from Mr. L. P. Nilssen, director of the agricultural school and experiment station, through Prof. N. E. Hansen, of the Agricultural Experiment Station, Brookings, S. Dak., as agricultural explorer for the Department of Agriculture, November 23, 1907.

**21534 to 21593—Continued.****21584 to 21591. SOLANUM TUBEROSUM.****Potato.**

Grown at the agricultural school farm, Bodoe.

**21584. *Flekke*.**“(No. 282.) From Loedingen, 68° 30' N. lat., where it has been raised for a series of years.” (*Hansen.*)**21585. *Flairball*.**“(No. 283.) Grown for a succession of years at the agricultural school at Bodoe, 67° 20' N. lat.” (*Hansen.*)**21586. *Russe*.**“(No. 284.) Cultivated for ten years at the agricultural school at Bodoe after having been raised for many years in Loedingen. Originally the stock came from Archangel, on the Arctic Ocean coast of European Russia.” (*Hansen.*)**21587. *Svensk*.**“(No. 285.) Grown for six years on the agricultural school farm at Bodoe, after having been cultivated for many years at Tana, 70° 25', Swedish Lapland.” (*Hansen.*)**21588. *Tana*, white.**“(No. 286.) Cultivated for six years at the agricultural school at Bodoe, after being cultivated many years in Tana, Swedish Lapland.” (*Hansen.*)**21589. *Loeding*.**“(No. 287.) Grown for a succession of years in Loedingen, northern Norway.” (*Hansen.*)**21590. *Hoeyer*.**“(No. 288.) Grown for a succession of years in Loedingen, northern Norway.” (*Hansen.*)**21591. *Svensk*, potato seeds.**“(No. 289.) Raised in 1907 at the agricultural school, Bodoe. The parent is described under S. P. I. No. 21587.” (*Hansen.*)**21592 and 21593. HORDEUM VULGARE.****Barley.****21592. *Finne*.**“(No. 290.) From Skjaerstad, 67° 15', northern Norway.” (*Hansen.*)**21593.**“(No. 291.) Barley of 1907 from Haarvik, in Loedingen, 68° 30', northern Norway.” (*Hansen.*)**21594 to 21598. CITRUS spp.**

From Glen St. Mary, Fla. Propagated by Mr. G. L. Taber for distribution by the Office of Seed and Plant Introduction. Numbered November 26, 1907.

Hybrid citrus fruits developed by Dr. H. J. Webber, in charge of the Department Plant Breeding Laboratory.

**21594. CITRUS TRIFOLIATA × AURANTIUM.****Citrange.***Savage*. (P. B. No. 779.) Budded on *trifoliata* stock.**21595. CITRUS NOBILIS × AURANTIUM.***Thornton*. (P. B. No. 5.) Budded on sour stock.

## 21594 to 21598—Continued.

21596. CITRUS NOBILIS × DECUMANA. Tangelo.  
*Sampson.* (P. B. No. 1316.) Budded on rough lemon stock.
21597. CITRUS NOBILIS × AURANTIUM. Tangerine orange.  
*Trimble.* (P. B. No. 627.) Budded on rough lemon stock.
21598. CITRUS NOBILIS × AURANTIUM. Tangerine orange.  
*Weshart.* (P. B. No. 628.) Budded on rough lemon stock.

## 21599. VIGNA UNGUICULATA. Cowpea.

From Olar, S. C. Received from Mr. A. W. Brabham, through Prof. C. V. Piper, November 26, 1907.

"*Brabham.* A variety originated by A. W. Brabham, Olar, S. C., which appeared as a natural hybrid in a field planted to alternate plants of Iron and Whippoorwill. The spotted seeds are quite intermediate between the Iron and the Whippoorwill. The plant has the erect habit of the Whippoorwill, holds its leaves satisfactorily as the Iron, and is remarkably prolific." (*Piper.*)

## 21600 to 21605.

From Poona, Bombay, India. Presented by Mr. F. Fletcher, Deputy Director of Agriculture. Received November 26, 1907.

21600. PHASEOLUS ACONITIFOLIUS. Moth bean.  
*Math.* From agricultural station, Dhulla.
21601. PANICUM FRUMENTACEUM. Millet.  
*Banti.* From agricultural station, Nadiad.
21602. VIGNA CATJANG. Catjang.  
*Chavali.* From agricultural station, Nadiad.
21603. VIGNA CATJANG. Catjang.  
*Chola.* From Katargam district, Surat.
21604. PANICUM FRUMENTACEUM. Millet.  
*Banti.* From agricultural station, Surat.
21605. PISUM ARVENSE. Field pea.  
*Watana.* From Walod district, Surat.

## 21606. ANONA CHERIMOLIA. Cherimoyer.

From Portici, Italy. Presented by Prof. L. Savastano, Royal School of Agriculture, through Mr. David Fairchild. Received November 29, 1907.

"*Anona cherimolia* is propagated exclusively by seed in Calabria. Varieties of it are not distinguished, which means that there are no varieties." (*Savastano.*)

## 21608. THESPEZIA POPTLNEA.

From Miami, Fla. Collected by Mr. P. J. Wester, special agent, Subtropical Laboratory and Garden. Received November 29, 1907.

"A tree native to the Florida Keys. It is quite attractive on account of its abundance of foliage, and, the leaves being somewhat thick and leathery, it might be well adapted for an avenue tree in cities. The flowers very closely resemble those of the cotton plant. The tree is apparently a very rapid grower and seems to transplant easily." (*Wester.*)

The same as No. 11768, inventory No. 11.

**21609. CANAVALIA ENSIFORMIS.****Knife bean.**

From Piracicaba, Brazil. Presented by Dr. J. William Hart, director, Agricultural College, through Prof. C. V. Piper. Received November 30, 1907.

A bush form.

**21610. SESBANIA AEGYPTIACA.**

From India. Presented by Mr. W. R. Guilfoyle, director, Botanic Gardens, Melbourne, Australia. Received December 2, 1907.

(See S. P. I. No. 21542 for description.)

**21611. PLOCAMA PENDULA.**

From Monte, Grand Canary, Canary Islands. Presented by Mr. Alaricus Delmard. Received December 2, 1907.

"Seeds of a species of low-growing shrub which grows on the slopes of the arid hillsides in the Canary Islands. It has a most beautiful weeping habit, giving the plants the appearance of tiny weeping willows, not over 2½ to 3 feet high. This would be very beautiful as a cover for dry hillsides overlooking the sea. It has already been brought into culture. Will probably withstand severe drought." (*Fairchild.*)

**21612. JUGLANS NIGRA × REGIA.****Walnut.**

From Pasadena, Cal. Presented by Mr. J. B. Wagner. Received December 4, 1907.

"Wagner's *Giant Hybrid*. This is a cross between Eastern Black and Santa Barbara Soft Shell. It is now about 20 inches in diameter—6 years from seed—while neither of its parents at same age, grown within 50 feet of it under same conditions, is over 5 inches in diameter. This, I believe, and Burbank says, is the most rapid growing hardwood tree in existence and a boon as wood and lumber." (*Wagner.*) (See also Nos. 19261 and 21710.)

**21613. MUCUNA FAWCETTII.**

From Kingston, Jamaica. Presented by Dr. William Fawcett, director, Hope Botanic Gardens. Received December 5, 1907.

**21616 to 21639.**

From Peking, Chi-li, China. Received through Mr. Frank N. Meyer, agricultural explorer, December 6 and 9, 1907.

**21616. DIOSCOREA sp.****Yam.**

From Peking, Chi-li, China. "(No. 741a, Oct. 22, 1907.) A yam grown extensively in northern China, the roots being boiled and eaten; sometimes sugar coated and sold as a sweetmeat. A trifle sharp of taste. Can grow in rather alkaline soil, but loves drainage and deep soil; sometimes the tubers grow to be 4 feet long." (*Meyer.*)

**21617. CHIONANTHUS RETUSA (?).****Chinese fringe tree.**

From Boshan, Shantung, China. "(No. 740a, Sept. 19, 1907.) An oleaceous, deciduous tree with Rhamnus-like leaves and bearing in spring a multitude of white, fringed, fragrant flowers, followed in the fall by masses of blue berries, looking like wild grapes. This tree is used by the Chinese to graft their *Olea fragrans* upon. Chinese name *Pai lou pi.*" (*Meyer.*)

**21618. ZIZYPHUS SATIVA.****Jujube.**

From Laoling, Shantung, China. "(No. 743a, Sept. 30, 1907.) This variety, called *Chin sze tsao*, is said to be the best variety for the so-called honey jujube manufacture. It is a remarkably sweet variety." (*Meyer.*)



## 21616 to 21639—Continued.

## 21619. ZIZYPHUS SATIVA.

Jujube.

From Hwei-goir, Shantung, China. "(No. 744a, Sept. 27, 1907.) This variety is called *Yuen ling tsao* or *Su hsin tsao*. The fruits are being steamed and smoked and sold as smoked dates, *Ghee tsao*." (Meyer.)

## 21620. ROSA XANTHINA.

Rose.

From Shushan, Shantung, China. "(No. 745a, Aug. 23, 1907.) This beautiful single yellow rose, *Rosa xanthina*, growing in dry, rocky localities and mostly in sheltered places, produces masses of delicate yellow flowers in early summer. Is used by the Chinese as a grafting stock for the tea varieties of roses." (Meyer.)

## 21621. BRASSICA CHINENSIS.

Chinese turnip.

From Wei-hsien, Shantung, China. "(No. 746a, Aug. 20, 1907.) A round, white turnip; Chinese name *Yuen man ching*. Said to be a superior variety of turnip, growing well in irrigated soil and attaining its best growth when the cool weather starts." (Meyer.)

## 21622. BRASSICA CHINENSIS.

Chinese turnip.

From Wei-hsien, Shantung, China. "(No. 747a, Aug. 20, 1907.) A long, white turnip; Chinese name *Chang man ching*. To this variety the same remarks apply as to the preceding number, 746a (S. P. I. No. 21621)." (Meyer.)

## 21623. RAPHANUS SATIVUS.

Radish.

From Wei-hsien, Shantung, China. "(No. 748a, Aug. 20, 1907.) Green turnip-radish. Chinese name *Chang lo bo*. A peculiar variety of this group; has excellent stomachic properties, being appetizing and promoting digestion; is always eaten raw, either sliced or shredded. It loves a deep, well-drained soil and must not lack water when becoming mature; otherwise it has a tendency to become pungent." (Meyer.)

## 21624. BRASSICA PE-TSAL.

Pe-tsai cabbage.

From Wei-hsien, Shantung, China. "(No. 749a, Aug. 20, 1907.) A large variety of white cabbage; Chinese name *Ta pai tsay*. It requires a rich, well-drained soil and an abundance of water during the whole period of growth; sown in seed beds in the latter half of June or in early July, and planted in its permanent place in the last week of August or in the early days of September at distances varying from 1½ to 2½ feet, according to richness of soil and hardness of variety." (Meyer.)

## 21625. BRASSICA PE-TSAL.

Pe-tsai cabbage.

From Yen-tchou-fu, Shantung, China. "(No. 750a, Sept. 4, 1907.) A white cabbage; Chinese name *Ta pai tsay tsun*. A very large variety of the Chinese cabbage, said to grow up to 40 pounds in weight and to be very solid. This variety is largely exported to the south of China." (Meyer.)

## 21626. BRASSICA PE-TSAL.

Pe-tsai cabbage.

From Tchang-tchou, Chi-li, China. "(No. 751a, Oct. 2, 1907.) A large, long-headed variety of Chinese cabbage; Chinese name *Ta pai tsay*. This variety is somewhat loose in its make-up, but it is able to stand considerable saline matter in the soil. One excellent feature of these cabbages is that they are far easier to digest than our varieties and never emit unpleasant odors when being boiled. As they also withstand heat and dry air to a much greater degree than our varieties, they will probably grow in regions of the United States where ordinary cabbages do not thrive." (Meyer.)

## 21627. NICOTIANA TABACUM.

Tobacco.

From Yen-tchou-fu, Shantung, China. "(No. 752a, Sept. 4, 1907.) Chinese name *Yen tsun*. A famous variety of tobacco, being exported



## 21616 to 21639—Continued.

from here to different cities in China; has rather short, though very broad, leaves; grows best on well-drained, irrigated soil and stands alkali remarkably well. It may be a good crop for the irrigated valleys of southern Utah and New Mexico." (Meyer.)

## 21628. CUCUMIS SATIVUS.

Cucumber.

From Tchang-tchou, Chi-li, China. "(No. 753a, Oct. 2, 1907.) Chinese name *Whang qua*. Is grown in the fields against sorghum-stem trellises. When sown in succession produces cucumbers until the frost kills them. Loves a well-drained soil." (Meyer.)

## 21629. CITRULLUS VULGARIS.

Watermelon.

From Tai-an-fu, Shantung, China. "(No. 754a, Sept. 11, 1907.) A fine yellow-meated variety of watermelon, considered by the Chinese far superior to the red-meated varieties. Chinese name *Huang si qua*." (Meyer.)

## 21630. CITRULLUS VULGARIS.

Watermelon.

From Chinan-fu, Shantung, China. "(No. 755a, Aug. 27, 1907.) A white-meated variety of watermelon, coming later in the season than the red varieties. It is, however, not as sweet as those." (Meyer.)

## 21631. SOLANUM MELONGENA.

Eggplant.

From Chang-ho, Shantung, China. "(No. 756a, Sept. 29, 1907.) A large-fruited variety of eggplant of a pale violet color. The fruits weigh as much as 7 or 8 pounds apiece, while the plant can resist alkali very well.

"The Chinese pickle these fruits in brine for winter use. Chinese name *Ta cha tse*." (Meyer.)

## 21632. CAPSICUM ANNUM.

Pepper.

From Hsing-chi, Chi-li, China. "(No. 757a, Oct. 3, 1907.) Chinese name *Teng lung tsiao*. A very large fruited variety of Chili pepper, of round oblong shape, dark-red color, and juicy but pungent. Withstands alkali in soil quite well." (Meyer.)

## 21633. MEDICAGO SATIVA.

Alfalfa.

From Laoling, Shantung, China. "(No. 759a, Sept. 30, 1907.) Chinese name *Mu su tsun*. A rather short-growing variety; said to draw the alkali away from the land; highly prized as a cattle and mule food; sometimes used as a cover crop in jujube orchards; generally left to occupy the land from four to five years. The Chinese grow alfalfa only as a land improver, not directly as a food for domestic animals; the moment the land is fit again for food crops, the alfalfa is dug up." (Meyer.)

## 21634. ZOYSIA PUNGENS.

Korean lawn grass.

From Laushan Mountains, Shantung, China. "(No. 760a, Aug. 2 and 3, 1907.) A valuable lawn grass, sent formerly from north Korea under Nos. 470a and 471a (S. P. I. Nos. 19425 and 19426). See remarks with these notes. This grass seems to do better in the elevated altitudes than on the burning plains, as it apparently likes cool nights." (Meyer.)

## 21635. POLIANTHES TUBEROSA.

Tuberose.

From Tientsin, Chi-li, China. "(No. 765a, Oct. 7, 1907.) A red-flowered tuberose; Chinese name *Wan hsian yu*. It seems to be a pale-red variety of the tuberose. The bulbs are taken up in the early part of October, left on the field several days to ripen off and dry, and are then stored in dry, frostproof storerooms." (Meyer.)

## 21636. ASTRAGALUS sp. (?)

From Mong-tchun, Chi-li, China. "(No. 758a, Oct. 1, 1907.) A leguminous plant; Chinese name *Pou tou chiang*. It is grown by the Chi-

**21616 to 21639—Continued.**

nese as a land improver when the soil is heavily charged with alkali, growing from five to seven years on the land before it is fit again for sorghum, wheat, or beans. It is not liked by cattle, although it is occasionally fed. When killed by the frost, the stems are cut off, dried and bunched, and utilized as fuel. It is also sometimes grown in pear orchards as a cover crop. May be of extreme value to the arid alkaline regions of the United States." (*Meyer*.)

**21637. ANTHISTIRIA CILIATA.**

From Lung-tung, Shantung, China. "(No. 763a, Sept. 25, 1907.) A tall-growing grass, covering here and there large areas on Chinese burial grounds. It is carefully cut down in autumn, bunched up, and sold for fuel; is probably too coarse for food, but might be grown for paper manufacture in arid regions of the United States." (*Meyer*.)

**21638. AGROPYRON SP.**

From Tsingtau, Shantung, China. "(No. 761a, July 31, 1907.) A grass found growing along banks and along roads exposed to the sea wind. It seems to be somewhat soil binding." (*Meyer*.)

**21639. SPOROBOLUS ELONGATUS.**

From Laushan Mountains, Shantung, China. "(No. 762a, Aug. 3, 1907.) A grass growing here and there in clumps between boulders and along trails." (*Meyer*.)

**21641 and 21642. PHOENIX DACTYLIFERA.****Date.**

From New York, N. Y. Received from Hills Brothers, December 5, 1907.

21641. *Halawi* (?). From Bassorah, Arabia.

21642. *Fard*. From Muscat, Arabia.

"These dates were used by Hills Brothers in the manufacture of the so-called stuffed dates, and were secured for the purpose of originating varieties adapted to the Southwest." (*Fairchild*.)

**21643. LAGENARIA VULGARIS.****Gourd.**

From Pretoria, Transvaal, South Africa. Presented by Prof. J. Burt Davy, Department of Agriculture. Received December 6, 1907.

*Pipe calabash*. (For description see S. P. I. No. 19616.)

**21644 to 21656.**

From Yokohama, Japan. Received from Yokohama Nursery Company (Limited), December 9, 1907.

The following collection of tubers is for experiments with wet-land crops in the South:

**21644. COLOCASIA SP.**

*Hasu-imo*.

**21645. COLOCASIA ANTIQUORUM ESCULENTA.**

*Sato-imo*.

**21646. COLOCASIA ANTIQUORUM ESCULENTA.**

*Yegu-imo*.

**21647. COLOCASIA ANTIQUORUM.**

*Mizu-imo*.

**21648. COLOCASIA ANTIQUORUM.**

*Tono-imo*.

## 21644 to 21656—Continued.

21649. COLOCASIA ANTIQUORUM.

*Hatake-imo.*

21650. SAGITTARIA SAGITTAEFOLIA.

*Kuwai.*

21651. SAGITTARIA SAGITTAEFOLIA.

*Suita kuwai.*

21652. DIOSCOREA JAPONICA TUBEROSA.

*Kashiu-imo.*

21653. DIOSCOREA sp.

21654. DIOSCOREA JAPONICA.

*Jinenjo.*

21655. DIOSCOREA JAPONICA.

*Naga-imo.*

21656. DIOSCOREA JAPONICA.

*Ichinen-imo.*

## 21657. AMYGDALUS ANDERSONII.

Wild peach.

From Pyramid Lake, Nevada. Presented by Mr. Marsden Manson, C. E.,  
2010 Gough street, San Francisco, Cal. Received December 10, 1907.

"These seeds I selected from vigorous and large shrubs or small trees growing  
on the west side of Pyramid Lake.

"Experiments with these should be to develop:

"(1) As a peach.

"(2) As an almond (the kernel is quite edible).

"(3) By hybridization with both the above, (1) and (2).

"(4) As a stock for (1) and (2)." (*Manson.*)

## 21658. ARALIA RACEMOSA.

Spikenard.

From North Clarendon, Vt. Presented by Mr. James Barrett, through Mr.  
O. W. Barrett. Received December 1, 1907.

"Prefers half shade in moist soil along roads or streams in forests; is seldom  
found in open situations. It reaches a height of from 3 to 5 feet. The roots  
are perennial, but the stems die back every winter. Decoctions of the thick  
aromatic bark of the roots with sugar are used as a catarrhal remedy. The  
bark is gathered late in the autumn." (*Barrett.*)

"This species being closely related to *Aralia cordata*, the Japanese udo, it  
seems feasible to try hybrids between the two species with the view of creating  
a more rapid growing form of the Japanese vegetable." (*Fairchild.*)

"A hardy, herbaceous perennial herb, 3 to 6 feet high, with a large and thick,  
strongly aromatic root. In general appearance it rather closely resembles the  
Japanese *Aralia cordata*, except that the leaves usually have three leaflets  
instead of five and the leaflets are broader in proportion to their length and less  
hairy." (*W. F. Wight.*)

## 21659. CASSIA ROBUSTA.

From Biloxi, Miss. Presented by Mr. S. M. Tracy, through Prof. C. V.  
Piper. Received December 5, 1907.

"This is common in central Mississippi, where it grows as an erect, branch-  
ing annual, 3 to 5 feet high. It is the largest and most vigorous growing of the  
'sensitive plants,' and as it reseeds the ground freely it will probably be of  
value as a cover and restorative crop for citrus groves and other fields where a  
rank, summer-growing legume is wanted. Being an annual, it can be eradicated  
easily by a single plowing at any time during the summer.

"Seed may be sown at any time from December to February, and needs no  
special treatment." (*Tracy.*)

**21660 to 21662. TRIFOLIUM ALEXANDRINUM. Berseem.**

From Cairo, Egypt. Received from Mr. George P. Foaden, Khedival Agricultural Society, December 10, 1907.

21660. *Muscovi.*

21662. *Saidi.*

21661. *Fachl.*

**21663 and 21664.**

From Yokohama, Japan. Received from Yokohama Nursery Company (Limited), December, 1907.

21663. *EUTREMA HEDERAEFOLIA.*

Dry-land wasabi.

*Yuri-wasabi.*

See No. 10579, Inventory No. 11, for description.

21664. *DIOSCOREA* sp.

**21666. MUCUNA sp.**

From Gasparce Island, Trinidad. Received through Mr. O. W. Barrett, December 14, 1907.

"Found on the rocky hillsides in virgin forests; possibly a Venezuelan species, not seen on the mainland of Trinidad." (*Barrett.*)

**21667 to 21683.**

From Ichang, Hupeh, China. Collected by Mr. E. H. Wilson, of the Arnold Arboretum, Jamaica Plain, Mass., in cooperation with this Department. Received in November and December, 1907.

21667. *TRITICUM VULGARE.*

Wheat.

"(No. 207.) *Hsao mesh.* The hairy red wheat, said to be awned; sown ninth to eleventh moon; ripe fourth to fifth moon. Cultivated at Ichang and in the mountains. Used for making flour." (*Wilson.*)

21668. *TRITICUM VULGARE.*

Wheat.

"(No. 208.) *Hsao mesh.* Smooth white wheat, said to be without awns; sown tenth moon (November); ripe fourth and fifth moons (May and early June). Cultivated at Ichang and in the mountains. Used for making flour. This is considered the best wheat in this region." (*Wilson.*)

21669. *HORDEUM VULGARE NUDUM.*

Hull-less barley.

"(No. 209.) *Me mesh.* Sown ninth moon (October); ripe fourth to fifth moons. Cultivated in the mountain regions. Not used for making flour, but ground into coarse meal and made into cakes." (*Wilson.*)

21670. *HORDEUM VULGARE NUDUM.*

Hull-less barley.

"(No. 210.) *Me mesh.* Sown ninth moon; ripe fourth and fifth moons. Cultivated around Ichang and in the mountain region. Used in the same way as No. 209 (S. P. I. No. 21669)." (*Wilson.*)

21671. *HORDEUM VULGARE.*

Barley.

"(No. 211.) *Fa mesh.* Sown ninth moon; ripe fourth to fifth moons. Cultivated around Ichang and in the mountains. Used mainly by peasants." (*Wilson.*)

21672. *AVENA SATIVA.*

Oat.

"(No. 212.) *Yen mesh.* Sown eleventh moon (December); ripe fourth and fifth moons. A mountain crop; eaten after the manner of porridge; also used for feeding horses." (*Wilson.*)

"A hull-less variety." (*Carleton.*)

## 21667 to 21683—Continued.

## 21673. FAGOPYRUM sp.

Buckwheat.

"(No. 213, Oct. 4, 1907.) *Ku ch'ao*. A green buckwheat which grows 2½ to 4 feet high; used for making cakes. This buckwheat is an important crop in the higher mountains (5,000 to 8,000 feet), where it is cultivated during the summer months; in the Yangtze Valley and in the mountains up to 3,000 feet. It is sown in the twelfth moon (January) and reaped in the fourth and fifth moons. In the neighborhood of Ichang it is often cultivated as a catch crop in the early autumn." (Wilson.)

"Translated the word 'Ku ch'ao' means 'early sown.'" (Carleton.)

## 21674. FAGOPYRUM sp.

Buckwheat.

"(No. 214.) *Hwa ch'ao*. A red buckwheat which grows 1 to 2 feet high; used for making cakes. Fields of this pink buckwheat scattered over the mountain sides constitute when in flower one of the prettiest sights imaginable." (Wilson.)

"The word 'Hwa ch'ao' means 'late sown.'" (Carleton.) (For further description, see S. P. I. No. 21673.)

## 21675. RUBUS INNOMINATUS.

"(No. 92.) Sweet or semisweet bramble, 4 to 12 feet. Stems not very prickly, clothed with short, soft pubescence. Leaves 3 to 5 foliate, terminal leaflet often trilobed; under side pale and clothed with short, soft pubescence. Calyx glandular or eglandular. Fruit paniculate, red, of good size and fine flavor; panicle often a foot long. Common in thickets up to 4,000 feet everywhere in western Hupeh. In fruit very ornamental and should, I think, prove a useful plant to the breeder on account of its immense panicles. It is the same as *Rubus kuntzeanus*, Hemsl." (Wilson.)

## 21676. ANDROPOGON SORGHUM.

Sorghum.

"(No. 260.) A cereal growing 6 to 12 feet high. Pellicles reddish black. Cultivated in valleys and low hills to the south of Ichang." (Wilson.)

## 21677. ANDROPOGON SORGHUM.

Sorghum.

"(No. 260a.) A cereal growing 6 to 12 feet high. Pellicles black or nearly so. Commonly cultivated in the valleys around Ichang." (Wilson.)

## 21678. ANDROPOGON SORGHUM.

Sorghum.

"(No. 202.) A cereal growing 8 to 12 feet high. Pellicles dull red or reddish chestnut. Widely cultivated on the alluvial flats between Shasi and Yochow, and more especially around Shasi. It was from the last-named place that the seeds were obtained.

"In this part of the Yangtze Valley the sole use of sorghum (*kao-liang*) is for making wine and spirits. I can find no record of its being used for food even by the peasants." (Wilson.)

## 21679. LIGUSTICUM sp. (?)

"(No. 262.) *Tu hoa*. Herb 3 to 5 feet high. Flowers white, in large corymbs. Commonly cultivated in the mountains of western Hupeh above 4,000 feet. Roots used in medicine; said to possess stomachic, tonic, carminative, expectorant, and lenitive properties." (Wilson.)

## 21680. LIGUSTICUM sp. (?)

"(No. 262a.) *Tu hoa*. Similar to No. 262 (S. P. I. No. 21679) but with much smaller corymbs and in all probability a different species. Its properties are the same, and I can not find that any distinction is made in the drug shops here.

"The Imperial maritime customs valuation of *Tu hoa* is 700 haikwan taels per picul. Large quantities are exported down the river from Ichang." (Wilson.)



## 21667 to 21683—Continued.

## 21681. CODONOPSIS TANGSHEN.

"(No. 269, Oct. 31, 1907.) *T'ang shen*, bastard ginseng. A climbing herb, 3 to 6 feet, with bluish purple flowers, greenish without; very abundant in the margins of thickets (sometimes cultivated also), 4,000 to 7,000 feet. Roots supposed to possess valuable tonic properties. Also considered a mild aphrodisiac. For full details see Kew Bulletin No. 1, 1907.

"Vast quantities are exported from Ichang in three grades, valued, respectively, by the Imperial maritime customs at 20, 15, and 10 haikwan taels." (Wilson.)

## 21682. RHUS VERNICIFERA.

## Lacquer tree.

"(No. 123, Sept. 4, 1907.) A tree 25 to 40 feet high, cultivated around the margins of fields between 3,000 and 7,500 feet and in wild woods above 4,000 feet. Branches more or less whorled, ascending at an angle of about 45°. Leaves unipinnate, five to many foliate, 1 foot to 2½ feet long, clustered at the ends of the branches. Flowers small, greenish white, borne in large, axillary panicles. Fruit small, flattened, straw colored.

"*Rhus vernicifera*, the *Che shu* of the Chinese, is the source of the well-known 'Ningpo' varnish, at least that of central and western China. What the 'Ningpo' plant may be is a matter of doubt, since no specimens have ever been collected there. It is, however, more than likely that 'Ningpo' is merely a trade name adopted by fruit growers in China to signify this particular varnish. Throughout the mountains south of Hupeh the trees are multitudinous, and enormous quantities of varnish are obtained and exported to all parts of China.

"The trees are first cut when about 6 inches in diameter; if too young the cutting kills. The average age of the trees is said to be above 60 years. The wood is useless save for fuel. In the woods the trees naturally grow taller than in the open. The tree is the property of the owner of the land, not of the tenant, and the varnish belongs to the former.

"Cutting the trees commences at the lower altitudes about the 20th of the fifth moon, but is general during the sixth moon. This is the time when the flowers are just opening. Oblique incisions 4 to 12 inches long and one-half inch to 1 inch wide are made in the trunk and main branches in the early morning and the varnish collected in bamboo tubs, shells, broken basins, etc., in the evening. These incisions are more or less spirally arranged along the stems. The varnish exudes for 7 days and then a thin slice of bark is cut away from the edge of the original incision. This is repeated seven times, the whole operation of collecting the varnish lasting about 50 days. The varnish when it first exudes is whitish, but quickly becomes dark almond on exposure to the air. A large tree yields 5 to 7 catties (6½ to 9½ pounds). This varnish is fit for use as soon as it is gathered, but there are several grades on the market, and it is probable that it subsequently undergoes some kind of preparation.

"The fruits when ground up, steamed, and submitted to pressure yield an oil used for culinary purposes, but more so for candle making. This oil is more abundant in the pericarp than in the seed." (Wilson.)

## 21683. ANGELICA sp. (?)

"(No. 201, Oct. 9, 1907.) *T'ang kuci*. An umbelliferous herb 2 to 3 feet high, with fine dissected decompound leaves, white flowers, and some short, thickened roots. This medicine is plentifully cultivated in the mountains of western Szechuan above 5,000 feet and more sparingly in the mountains of Hupeh around 6,500 feet. It requires deep rich loam and a good supply of manure—pig dung by preference. So far wild specimens are unknown.

"This medicine is in great request among the Chinese, especially in the more southern parts of the Empire. It is said to possess valuable but mild tonic properties.

"At Ichang the customs' valuation is 15 haikwan taels per picul, first class; 9 haikwan taels, second class. Large quantities are exported from here. I am not at all sure of the generic name, and it may be a *Ligusticum*." (Wilson.)

**21684. ZEA MAYS.****Corn.**

From Lima, Peru. Presented by Mr. T. F. Sedgwick, director, Estacion Experimental, through Mr. David Fairchild. Received December 12, 1907.

"A red corn used to make the national fermented drink, 'red chicha.' The common corn is used for chicha as well, but the color is about like that of fermented cane juice. The coloring matter in the red chicha is obtained chiefly from the cob. This red chicha is greatly liked by the natives and is sold at most fiestas by the laboring classes. I have never heard of its being used for coloring wine, but it is used in coloring gelatine." (*Sedgwick.*)

**21688. CAPSICUM ANNUUM.****Pepper.**

From Chico, Cal. Collected in Mexico and presented by Mr. Edward M. Ehrhorn, First Deputy Commissioner of Horticulture, San Francisco, Cal. Grown at the Plant Introduction Garden, season of 1907. Received December 7, 1907.

**21689. CITRUS AURANTIUM.****Orange.**

From Algiers, Algeria. Presented by Dr. L. Trabut, government botanist of Algeria. Received December 16, 1907.

*Précocé de Kabylie.*

**21691 to 21693. CUCURBITA MELANOSPERMA. Ecuador melon.**

From Quito, Ecuador. Presented by Mr. S. Ordóñez M. Received December 14, 1907.

21691. Long green shell.

21693. Green shell, striped white.

21692. White shell.

(For description see No. 18328.)

**21695 to 21697. CYNARA SCOLYMUS.****Artichoke.**

From Milan, Italy. Received from Fratelli Ingegnoli, December 10, 1907.

21695. *Grosse Italia.*

21697. *Senza Spine di Venezia.*

21696. *Violetto di Provenza.*

**21699. PERSEA GRATISSIMA.****Avocado.**

From Lima, Peru. Presented by Mr. T. F. Sedgwick, director, Estacion Experimental, through Mr. O. W. Barrett. Received December 20, 1907.

**21700 to 21702.**

From Peking, Chi-li, China. Received through Mr. Frank N. Meyer, agricultural explorer, December, 1907.

21700. *CHLORIS VIRGATA.*

From Tong-kwan-tun, Chi-li. "(No. 764a, Oct. 3, 1907.) A bad grass. Chinese name *Lu pu tun*. This annual grass overruns whole fields and is a great weed, but it resists alkali to a most remarkable degree and is eaten by all domestic animals. Overruns even alfalfa fields. For trial, without taking responsibility upon myself." (*Meyer.*)

21701. *CUCUMIS MELO.*

**Muskmelon.**

From Hanchau, Chekiang. "(No. 826a, June 27, 1907.) A small but sweet melon growing not much larger than a big apple." (*Meyer.*)

21702. *STACHYS AFFINIS.*

**Crosne.**

From Peking, Chi-li. "(No. 23, Nov. 5, 1907.) Chinese name *Kan lo*; used as appetizers by the better classes of Chinese. They pickle them in brine and serve them as they are. Foreigners stew them and eat them with a milk sauce, just like Jerusalem artichokes." (*Meyer.*)

**21703. PHOENIX DACTYLIFERA.****Date.**

From New York, N. Y. Received from Messrs. Reiss & Brady, 349 Greenwich street, December 20, 1907.

*Fard.*—Seed of this variety secured for propagation in seedling date orchards.

**21704 and 21705. PHYSALIS spp.**

From Pretoria, Transvaal, South Africa. Presented by Mr. R. A. Davis, government horticulturist. Received December 23, 1907.

**21704. PHYSALIS FRANCHETII.****Chinese lantern plant.**

"Was formerly considered poisonous, but is now found to be an edible commodity." (*Davis.*)

**21705. PHYSALIS PERUVIANA.**

"The variety which is most largely grown here." (*Davis.*)

**21706. HARPEPHYLLUM CAFFRUM.****Kafir plum.**

From Cape Town, Cape of Good Hope, South Africa. Received from Mr. Charles P. Lounsbury, entomologist, Department of Agriculture, December 24, 1907.

"This tree has shown itself to be a promising shade tree in southern California." (*Fairchild.*) (For description see No. 9616, Inventory No. 9.)

**21707 to 21709.**

From district Amraoti, Berars, India. Presented by Mr. Anant Sitaram Dhavale, Nimboli, Post Mangrul-Dhavale, through Prof. C. V. Piper. Received December 27, 1907

**21707. SESAMUM INDICUM.****Sesame.**

"*Til.* Both rainy and cold season crop, but the rainy season's crop is often plowed in for wheat sowing." (*Dhavale.*)

**21708. PHASEOLUS RADIATUS.****Mung bean.**

"*Uriid.* An autumn crop, the most leguminous one and the one most generally plowed in for all the cold-weather crops." (*Dhavale.*)

**21709. PISUM ARVENSE.****Field pea.**

"*Muter.* A cold-weather leguminous crop, very rarely plowed in—in case of failure only." (*Dhavale.*)

**21710. JUGLANS NIGRA × REGIA.****Walnut.**

From Paris, France. Presented by Mr. Philippe L. de Vilmorin. Received December 24, 1907.

"*Juglans vilmoriniana* Carr. These nuts are rare, of course, as in all hybrids, and one big tree nearly 100 years old bears only 12 to 20 every year. Strange to say, one hybrid breeds true. In some hundred seedlings made in the last years, I have noticed only two or three that are not true." (*Vilmorin.*)

(See also Nos. 19261 and 21612; also Garden and Forest, Vol. IV, p. 51, 1891.)

**21711 to 21715.**

From Bodoe, Tromsø, Norway. Received from Mr. L. P. Nilssen, director of the agricultural school and experiment station, through Prof. N. E. Hansen, of the Agricultural Experiment Station, Brookings, S. Dak., as agricultural explorer for the Department of Agriculture in 1906. Numbered December, 1907.

## 21711 to 21715—Continued.

## 21711. HORDEUM VULGARE.

Barley.

"(No. 277.) A barley from Ofoton, 68° 20', north of the Arctic Circle in Norway, from the innermost point of a deep fjord, or arm of the sea, a few meters above sea level, on sandy soil; severe winter, cold, but usually with snow. This is originally from Lyngen in Tromsø Amt or province; in a deep fjord, 69° 17' N. lat., and cultivated fifteen years in succession at Elvegaard, a farm belonging to S. Mosling, where it has ripened every year. The present sample raised by S. Mosling, of Elvegaard, at Ofoton." (Hansen.)

## 21712. AVENA SATIVA.

Oat.

"(No. 278.) Seed of oats from the same place as No. 277 (S. P. I. No. 21711). Cultivated here one year." (Hansen.)

## 21713. HORDEUM VULGARE.

Barley.

"(No. 279.) Sample of barley from Hans Olsen Misvaer, in Skjaerstad, in 67° 7' latitude in northern Norway, in a deep fjord, where the winter is uniformly cold and the summer often oppressively warm; sandy soil. This sample was cultivated for a number of years in succession in the same place. Sowing season about May 20; harvest August 24." (Hansen.)

## 21714. SECALE CEREALE.

Rye.

"(No. 280.) Spring rye from the same locality as No. 279 (S. P. I. No. 21713)." (Hansen.)

## 21715. SECALE CEREALE.

Rye.

"(No. 281.) Winter rye from Arnoldus Mo, Bodin, 67° 19' latitude, northern Norway, a locality on the seacoast, where the fields often lie bare in winter. This sample was cultivated over fifty years on the same place." (Hansen.)

## 21716 to 21730.

From Tashkent, Turkestan, Russian Central Asia. Received from Mr. Richard Schroeder, director of the experiment station, through Prof. N. E. Hansen, of the Agricultural Experiment Station, Brookings, S. Dak., as agricultural explorer for the Department of Agriculture in 1906. Numbered December, 1907.

## 21716. GOSSYPIMUM HIRSUTUM.

Cotton.

"Bokhara. (No. 292.) From the bazaar at Tashkent, Turkestan." (Hansen.)

## 21717. MALUS MALUS.

Apple.

"Kisyl alma. (No. 293.) From Samarcand, Russian Turkestan." (Hansen.)

## 21718. BETA VULGARIS.

Beet.

"Muschak-dumalak. (No. 294.) From Tashkent, Russian Turkestan. Seed of native beet." (Hansen.)

## 21719. CUCUMIS SATIVUS.

Cucumber.

"Kok-badrin. (No. 295.) From Tashkent, Russian Turkestan." (Hansen.)

## 21720. PANICUM MILLACEUM.

Broom corn millet.

"Ak-kunak. (No. 296.) From Tashkent, Russian Turkestan. A native millet." (Hansen.)

## 21721. PRUNUS sp.

Cherry.

"Kara-alytscha. (No. 297.) From Tashkent, Russian Turkestan. A native cherry." (Hansen.)

## 21716 to 21730—Continued.

21722. *PANICUM MILIACEUM*. Broom corn millet.  
*"Bulbul-kunak.* (No. 298.) From Moha, via Tashkent, Russian Turkestan. A red millet." (*Hansen.*)
21723. *PRUNUS* sp. Plum.  
*"Kara-alkhor.* (No. 299.) From Tashkent, Russian Turkestan. A native plum." (*Hansen.*)
21724. *PANICUM MILIACEUM*. Broom corn millet.  
*"Tschiljaki-taryk.* (No. 300.) From Tashkent, Russian Turkestan. Seed of a native white millet." (*Hansen.*)
21725. *PISTACHIA* sp. Pistache.  
*"Pandi-psta.* No. 30L.) From the bazaar at Tashkent, Russian Turkestan. Seeds of a native pistache nut." (*Hansen.*)
21726. *ZEА MAYS*. Maize.  
 From Kutais, Transcaucasia, Asiatic Russia. "(No. 302.) A hybrid maize." (*Hansen.*)
21727. *PRUNUS* sp. Cherry.  
 From the bazaar at Bokhara, Russian Turkestan. "(No. 303.) Seeds of the native cherry." (*Hansen.*)
21728. *PRUNUS ARMENIACA*. Apricot.  
*"Urjuk.* (No. 304.) From Tashkent, Russian Turkestan. Seeds of native apricot. Very large pits and fruits." (*Hansen.*)
21729. *ANDROPOGON SORGHUM*. Sorghum.  
 From Tashkent, Russian Turkestan. "(No. 305.) Seed of native forage plant, *Sorghum cernuum*, one of the best native varieties." (*Hansen.*)
21730. *CUCUMIS MELO*. Muskmelon.  
*"Bass-waldy.* (No. 306.) From the bazaar at Tashkent, Russian Turkestan. Seed of native muskmelon. The present sample is dried in the flesh. The natives claim this is the only way these muskmelons, which ripen during the winter like winter apples, should be kept." (*Hansen.*)



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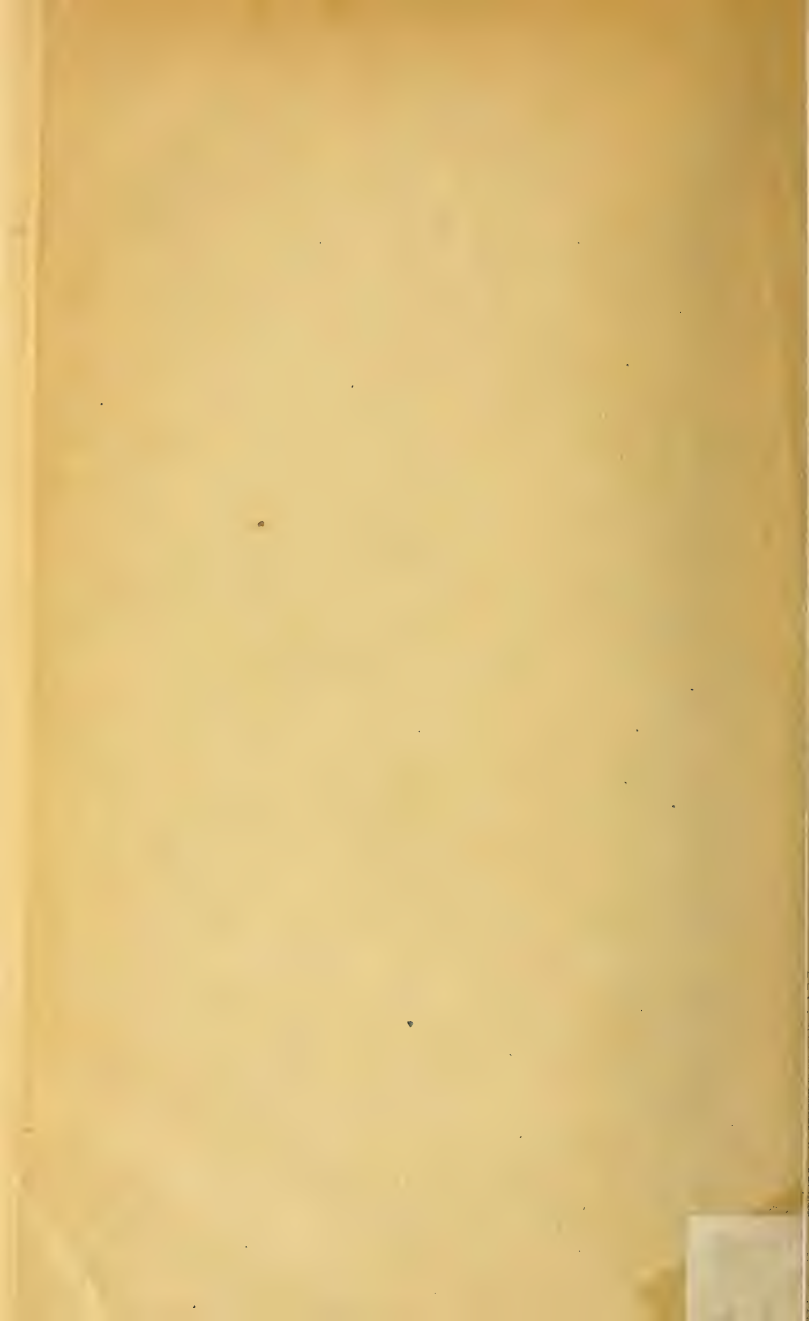
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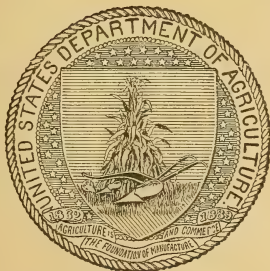
# SEEDS AND PLANTS IMPORTED

DURING THE PERIOD FROM JANUARY 1  
TO MARCH 31, 1908:

INVENTORY No. 14; Nos. 21732 to 22510.

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ISSUED JANUARY 9, 1909.



WASHINGTON:  
GOVERNMENT PRINTING OFFICE.  
1909.



## BULLETINS OF THE BUREAU OF PLANT INDUSTRY.

The scientific and technical publications of the Bureau of Plant Industry, which was organized July 1, 1901, are issued in a single series of bulletins, a list of which follows.

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BUREAU OF PLANT INDUSTRY—BULLETIN NO. 137.

B. T. GALLOWAY, *Chief of Bureau.*

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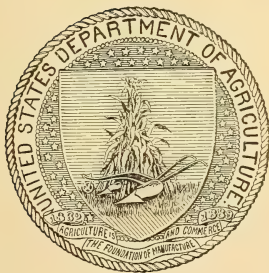
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ISSUED JANUARY 9, 1909.



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## FOREIGN SEED AND PLANT INTRODUCTION.

### SCIENTIFIC STAFF.

David Fairchild, *Agricultural Explorer in Charge.*

Frank N. Meyer and William D. Hills, *Agricultural Explorers.*

Albert Mann, *Expert in Charge of Special Barley Investigations.*

F. W. Clarke, *Special Agent in Charge of Matting-Rush Investigations.*

Frederic Chisolm, *Expert.*

Walter Fischer, R. A. Young, and H. C. Skeels, *Scientific Assistants.*

## LETTER OF TRANSMITTAL.

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U. S. DEPARTMENT OF AGRICULTURE,  
BUREAU OF PLANT INDUSTRY,  
OFFICE OF THE CHIEF,  
*Washington, D. C., October 5, 1908.*

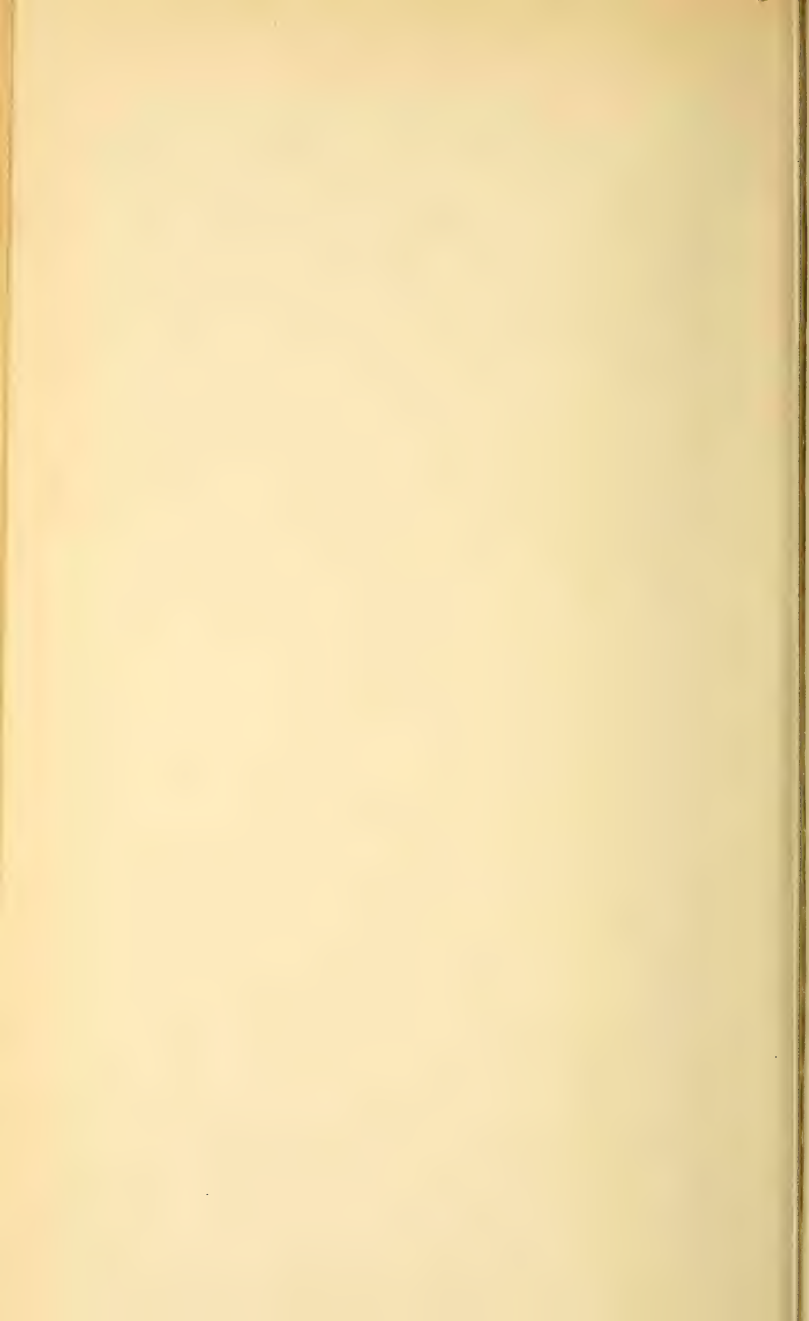
SIR: I have the honor to transmit herewith and to recommend for publication as Bulletin No. 137 of the series of this Bureau, the accompanying manuscript, entitled "Seeds and Plants Imported During the Period from January 1 to March 31, 1908: Inventory No. 14; Nos. 21732 to 22510."

This manuscript has been submitted by the Agricultural Explorer in Charge of Foreign Seed and Plant Introduction with a view to publication.

Respectfully,

B. T. GALLOWAY,  
*Chief of Bureau.*

Hon. JAMES WILSON,  
*Secretary of Agriculture.*

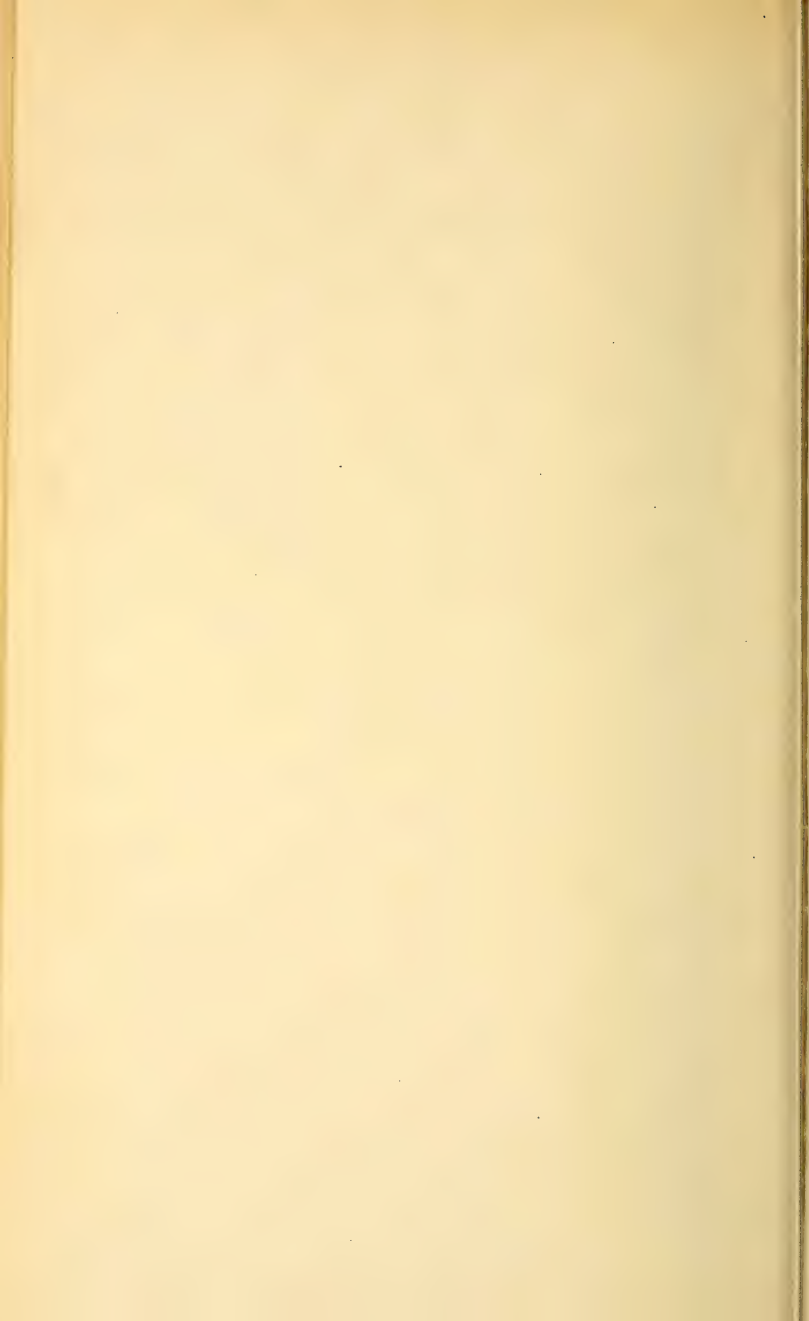




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## SEEDS AND PLANTS IMPORTED DURING THE PERIOD FROM JANUARY 1 TO MARCH 31, 1908: INVENTORY NO. 14; NOS. 21732 TO 22510.

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### INTRODUCTORY STATEMENT.

With this fourteenth inventory of seeds and plants imported from abroad is inaugurated a new departure. The volume of interesting matter pertaining to these new introductions has become so great and the desirability of getting out printed descriptions for the use of those handling them is so apparent that it has been decided to issue the inventory as soon as possible after each period of three months of introduction work.

This plan, it is believed, will interest the friends of these new immigrants and insure them better attention in the homes which are being created for them in America.

Since January 1, 778 introductions have come in, i. e., at the rate of more than 8 a day, and among these it is worth while to call attention to certain ones which are of unusual interest.

Mr. Frank N. Meyer has continued his explorations in northern China and this inventory contains 179 of his introductions. Among them are some remarkable wild chestnuts, wild walnuts, oaks, crab apples, and pears from the Chihli Province; seeds of the original chrysanthemum from which most of the cultivated forms are supposed to have originated; a collection of apples and pears from Pangshan; several elms of some promise; *Pyrus betulaeifolia*, the species on which in China the native pears are grafted and which distinguishes itself as easily grown from cuttings; and the Fei-tao peach of Feitcheng, which is known all over North China as the finest peach in the Empire. It is a clingstone, and individual fruits in the dry region of the Shantung Province attain a weight of 1 pound. Possibly this is the Chinese Cling already known in America, although such extraordinary fruits are not produced in this country, and this may be an entirely new and most valuable addition to the peaches of the United States.

Perhaps the most remarkable of all of Mr. Meyer's finds are the Chinese dates, which, by the way, are not dates at all, but delicious fruits borne on deciduous trees (*Zizyphus sativa*) which will stand drought remarkably well. In the Shantung Province there appear to be as many kinds of these fruits as there are of plums in America. Large orchards of the plants are grown there, and the specimens of fruits which Mr. Meyer has sent in encourage us to think that they may vie with the real date as an orchard culture in the dry West where they can be grown. Good judges of fruit have not hesitated to pronounce the samples sent in as equal in delicacy to, though entirely different from, the finest dates. The Office of Plant Life History Investigations has the development of this new industry on its programme for the coming year.

An interesting dry-land naked oat, some new buckwheats, a new stock for the peach (*Amygdalus davidiana*), new and most interesting sorghums, more forms of the Chinese hardy persimmon, a horse-chestnut that is evidently new to the country and may be a superior shade tree, new drought-resistant cherries, and one or perhaps two new yellow roses, for which the rose breeders are already clamoring, are others of Mr. Meyer's finds.

Among the importations which have come in through our foreign correspondents, the following may be especially emphasized: A shipment of cork-oak acorns from Spain; a collection of Rheums from Russia for the rhubarb breeders; seeds of the Chilgoza pine, a remarkable nut-bearing pine from Baluchistan; the Grano Marzuolo, a variety of dwarf wheat used in Italy for the plaiting industry; the Amoy pomelo; the wild emmer, a remarkable new grain from Palestine; large collections of cowpeas and sorghums from the Orient; the Guayaquil pineapple from Ecuador; the nut oak (*Quercus cornu*) from Hongkong; an African asparagus for the asparagus breeders; the wild licorice of Greece; a collection of taros from Hawaii; a collection of 215 varieties of tobacco, the most generous gift of the noted tobacco expert, Prof. Dr. O. Comes, of the Agricultural School of Portici, Italy (doubtless the largest collection of tobaccos ever gotten together); wild olives and pistaches from Baluchistan; and a collection of Japanese radishes.

Botanists will note that an attempt is made in this inventory to name each introduction and give the botanical authority for the name. Anyone familiar with such work will realize that it is not possible to do this with absolute accuracy, as often only seeds or cuttings are at the disposal of the determining botanist. Mr. W. F. Wight and, under his direction, Mr. H. C. Skeels have been given charge of this feature of the inventory, and with Miss Mary A. Austin responsible for the preparation of the inventory cards it is believed that in the

future these inventories of newly imported plants will not only be more accurate, but will contain more useful information and will appear more promptly than in the past, and in this way become of much more value to the experimenters who are studying the new things as they come in.

DAVID FAIRCHILD,  
*Agricultural Explorer in Charge.*

OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION,  
*Washington, D. C., September 14, 1908.*





# INVENTORY.

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## 21732. QUERCUS SUBER L.

Cork oak.

From Gibraltar, Spain. Procured by Hon. R. L. Sprague, American consul.  
Received December 30, 1907.

"Seed imported for experiments in the introduction of the cork oak in the Southern States and California." (*Fisher.*)

## 21733. TRIFOLIUM SUBROTUNDUM Steud. & Hochst.

From Kisumu, British East Africa. Presented by Mr. Arthur B. Chilson.  
Received December 26, 1907.

"African clover. This grew 5,300 feet above sea level, 8 miles north of the equator, about 20 miles northeast of Lake Victoria. I have never found it growing lower than 4,000 feet above sea level. This is a very hardy variety of clover able to stand extremes of dry and wet weather. It sometimes grows to a height of 2 feet, but is usually much shorter. The blossom is red with often a slight mixture of white; smaller than the red-topped variety in America, but larger than the white clover." (*Chilson.*)

"In Abyssinia cultivated as forage under the name of 'Mayad.'" (*Oliver, D., Flora of Tropical Africa, 1871, vol. 2, p. 59.*)

## 21734. ROSA HUGONIS Hemsl.

From Paris, France. Purchased from Vilmorin-Andrieux & Co. Received January 3, 1908.

## 21735. MEDICAGO SATIVA L.

Alfalfa.

From Alma, Nebr. Purchased from Mr. Conrad Boehler. Received January 6, 1908.

*Grimm.* Grown from S. P. I. No. 12991: Grown especially for the Department, under direction of Forage Crop Investigations, by Mr. Conrad Boehler.

## 21736. PANICUM OBTUSUM H. B. K.

From Roswell, N. Mex. Collected on special order by the Roswell Seed Company. Received January 6, 1908.

"A native grass especially abundant in low or moist soil. It should be tested under irrigation, as it promises to give several cuttings each season." (*C. V. Piper.*)

## 21737 to 21749.

From Kew, England. Presented by Dr. David Prain, director, Royal Botanic Garden. Received December 31, 1907.

Cuttings of the following:

21737 to 21740. ROSA spp.

Rose.

21737. *Helene.*

21739. *Una.*

21738. *Electra.*

21740. *Austrian Copper Briar.*

## 21737 to 21749—Continued.

21741. *ROSA SPINOSISSIMA* L.  
 21742. *ROSA* sp.  
 21743. *ROSA SERICEA* Lindl.  
 21744. *RUBUS LASIOSTYLUS* Focke.  
 21745. *RUBUS MICROPHYLLUS* L. f.  
 21746. *RIBES CRUENTUM* Greene.

Seeds of the following:

21747. *ROSA SOULIEANA* Crépin.  
 21748. *RUBUS CRATAEGIFOLIUS* Bunge.  
 21749. *RIBES WOLFII* Rothr.

21750. *ALBIZZIA ADIANTHIFOLIA* (Schum.) (*MIMOSA ADIANTHIFOLIA* Schum.)

From Thornwood Estate, M'lanje, British Central Africa. Received from Mr. Henry Brown, through Mr. C. J. Petherick, No. 4 Trafalgar Square, London, England, January 6, 1908.

"A very fast growing, leguminous tree; table-topped, feathery leaved, and very suitable for shade for coffee, cocoa, tea, and other productions which may grow in America. The tree yields an excellent timber very like satin wood in the grain." (*Brown.*)

21751. *AVENA STERILIS* L.

Oat.

From the Province of Ispahan, Persia. Presented by Mr. John Tyler, American consular agent, Teheran, Persia. Received September, 1907.

*Porridge.* "Seed of a wild oat they call *Porridge*. I should think the original of our 'porridge.' It is used the same as oatmeal." (*Tyler.*)

21752. *CUCUMIS SATIVUS* L.

Cucumber.

From Korea. Presented by the Yokohama Nursery Company, Yokohama, Japan. Received January 2, 1908.

"Said to be different from our variety." (*Yokohama Nursery Company.*)

21753. *PHOENIX ROUSELEYANA* Griff. (*PHOENIX HUMILIS* Royle.)

Date.

From Sibpur, Calcutta, India. Presented by Capt. A. T. Gage, superintendent, Royal Botanic Garden. Received October 3, 1907.

"The *Phoenix humilis* above is the *P. humilis* of Royle (see Royle, *Illust. Bot. Him.*), and not *P. humilis* Cav. Ic., which is equivalent to *Chamaerops humilis* of the Mediterranean region." (*W. W. Smith.*)

21754 to 21757. *GLYCINE HISPIDA* (Moench) Maxim. Soy bean.

From Paris, France. Purchased from Vilmorin-Andrieux & Co. Received January 3, 1908.

21754. Yellow seeded.  
 21755. *Ogemaw*. Extra early, brown seeded.  
 21756. Black seeded.  
 21757. Extra early, black seeded.

**21758 to 21767. RHEUM spp.****Rhubarb.**

From St. Petersburg, Russia. Presented by Dr. A. Fischer von Waldheim, director, Imperial Botanic Garden. Received January 6, 1908.

21758. RHEUM RHAPONTICUM L.

*Queen Victoria.*

21759. RHEUM UNDULATUM L.

21760. RHEUM RHAPONTICUM L.

21761. RHEUM PALMATUM TANGUTICUM Maxim.

21762. RHEUM PALMATUM L.

Red flowered.

21763. RHEUM AUSTRALE Don.

21764. RHEUM COMPACTUM L.

21765. RHEUM PALMATUM ATROPURPUREUM.

21766. RHEUM MOORCROFTIANUM Royle.

21767. RHEUM ACUMINATUM Hook. f. &amp; Thomas.

**21768 and 21769. MEDICAGO SATIVA L.****Alfalfa.**

From Bassorah, Persian Gulf. Purchased from Mr. H. P. Chalk, agent for the Hills Brothers Company, New York. Received January 7, 1908.

*Arabian alfalfa or Jet.*

21768. Seed from unirrigated plants.

21769. Seed from irrigated plants.

**21770 to 21778.**

From French Guinea. Presented by M. Aug. Chevalier, 63 Rue de Buffon, Paris, France. Received January 10, 1908.

21770. IPOMOEA BATATAS (L.) Poir.

Sweet potato.

21771. IPOMOEA BATATAS (L.) Poir.

Sweet potato.

21772. IPOMOEA BATATAS (L.) Poir.

Sweet potato.

21773. COLEUS sp.

21774. COLEUS sp.

21775. DIOSCOREA BULBIFERA L.

21776. MUSA sp.

Banana.

21777. XANTHOSOMA SAGITTAEFOLIUM (L.) Schott.

Yautia.

White.

21778. XANTHOSOMA SAGITTAEFOLIUM (L.) Schott.

Yautia.

Rose.

**21779. CITRUS NOBILIS × VULGARIS.**

From Algiers, Algeria. Presented by Dr. L. Trabut, government botanist. Received January 9, 1908.

"Fruit large, mediocre, colored." (*Trabut.*)

**21780 to 21782.**

From Ichang, Hupeh, China. Secured by Mr. E. H. Wilson, of the Arnold Arboretum, Jamaica Plain, Mass., in cooperation with this Department. Received January, 1908.

## 21780 to 21782—Continued.

A collection of seeds, as follows:

21780. *CANNABIS SATIVA* L.

Hemp.

"(No. 428, Dec. 8, 1907.) Seeds of a particularly robust form of this well-known hemp. This form of *Cannabis* is commonly cultivated in association with maize by peasants and farmers on the mountains north and south of Ichang at altitudes between 3,000 and 5,000 feet. The plants vary from 6 to 12 feet, and the lower part of the stem is often 4 inches in circumference.

"This plant is cultivated exclusively for the oil which is expressed from the seeds after grinding and steaming in the ordinary Chinese way. This oil is used for illuminating purposes and is valued on account of its noncongealing in the coldest of weather. The stems are used for fuel, though a little fiber is occasionally used for making sundries for local use.

"It is the *Tung ma* (cold hemp) of these parts." (Wilson.)

21781. *ACTINIDIA CHINENSIS* Planch.

Yangtaw.

"(No. 347, Dec. 8, 1907.) A robust climber, 10 to 30 feet high; leaves and young shoots covered with bright crimson villous hairs. Flowers unisexual or hermaphrodite, buff-yellow to white, fragrant, 1 to 1½ inches across, produced in great profusion. Fruits abundantly produced, ovoid to globose, 1 to 2½ inches long, 1 to 1½ inches across, epicarp membranous, russet-brown, more or less clothed with villous hairs. Flesh green, of most excellent flavor, to my palate akin to that of the common gooseberry but tempered with a flavor peculiarly its own.

"The plant is common in thickets and margins of woods from 3,000 to 4,000 feet high in western Hupeh and Szechuan. Also known from the Hushan Mountains in Kiangsi Province and from Fokien.

"The plant is highly ornamental, either in foliage or in flower. The fruits are excellent for either dessert or making into preserves.

"Introduced by me to the nurseries of Veitch & Sons, of Chelsea, London, and quite hardy in England.

"Local native name, *Yang tao* (strawberry peach)." (Wilson.)

21782. *EUCOMMIA ULMOIDES* Oliver.

Tu-chung.

"(No. 383, Dec. 8, 1907.) Tree 25 to 40 feet by 1½ to 4 feet. Cultivated in western Hupeh and Szechuan at altitudes between 1,000 and 4,500 feet. The tree is valued for its bark, which constitutes the native drug *Tu-chung*. The bark, leaves, and fruit contain silky, elastic fibers composed largely of a caoutchouc-like substance akin to balata. As a rubber-producing plant, however, the plant has little value.

"*Eucommia* was introduced from China into France by Vilmorin and into England by myself. In both countries it has proved quite hardy. In Algiers and parts of Tonking this tree has been experimentally planted by the French as a rubber-producing tree.

"The medicine *Tu-chung* is valued as a tonic and mild aphrodisiac.

"The customs' valuation here is: First quality, 30 taels per picul; second quality, 20 taels per picul; third quality, 10 taels per picul." (Wilson.)

21783. *BAUHINIA PICTA* (H. B. K.) DC.

From Miami, Fla. Grown in 1907 at the Subtropical Laboratory and Garden from seed presented by Mr. J. C. Harvey, Sanborn, Vera Cruz, Mexico; distributed from Subtropical Laboratory and Garden.

"An unarmed shrub with nearly orbicular leaves, about 3½ inches long, and solitary terminal racemes, 2 to 3 inches long, of white flowers spotted with red." (W. F. Wight.)

## 21784 to 21805.

From Sibpur, Calcutta, India. Presented by Capt. A. T. Gage, superintendent, Royal Botanic Gardens. Received January 10, 1908.

**21784 to 21805—Continued.**

A collection of seeds, as follows:

21784. *CICER ARIETINUM* L. Chick-pea.  
White seeded.

21785. *CICER ARIETINUM* L. Chick-pea.  
Clay seeded.

21786. *CICER ARIETINUM* L. Chick-pea.

21787. *PHASEOLUS RADIATUS* L. Mung bean.

21788. *PHASEOLUS RADIATUS* L. Mung bean.

21789. *PHASEOLUS RADIATUS* L. Mung bean.

21790. *PHASEOLUS PILOSUS* H. B. K.

21791. *VIGNA SESQUIPEDALIS* (L.) W. F. Wight.

*Lobia.*

21792. *VIGNA CATJANG* (Burm.) Walp. Catjang.  
Red podded.

21793. *VIGNA UNGUICULATA* (L.) Walp. Cowpea.  
White.

21794. *PISUM SATIVUM* L. Pea.  
White.

21795. *PISUM SATIVUM* L. Pea.

21796. *LATHYRUS* sp.

21797. *SESBAN BISPINOSA* (Jacq.) Steud. (*AESCHYNOMENE BISPINOSA* Jacq.)

21798. *LAGENARIA VULGARIS* Ser. Gourd.

21799. *ABELMOSCHUS ESCULENTUS* (L.) Moench.

21800. *CARICA PAPAYA* L. Papaw.

21801. *BENINCASA CERIFERA* Savi. Wax gourd.

21802. *CUCUMIS SATIVUS* L. Cucumber.

21803. *CUCUMIS MELO* L. Muskmelon.

21804. *CUCURBITA PEPO* L. Pumpkin.

21805. *CITRULLUS VULGARIS* Schrad. Apple-seeded watermelon.

**21806. *RAPHANUS SATIVUS* L. Radish.**

From Macassar, Celebes, Dutch East Indies. Presented by Mr. Wiebe P. de Jong, American consular agent. Received January 6, 1908.

**21807. *ANDROPOGON SORGHUM* (L.) Brot. Sorghum.**

From Descanso, Cal. Presented by Mr. E. P. St. John. Received January 9, 1908.

"*Roosevelt's Forty-Four.* A 'sport' selected from a field of *Amber sorghum* in 1905. Is a heavy stooler; lacks in sweetness, but has good fodder." (*St. John.*)

**21808 and 21809.**

From Pretoria, Transvaal. Presented by Mr. C. L. Legat, Conservator of Forests, Transvaal Department of Agriculture. Received January 14, 1908.



**21808 and 21809—Continued.****21808. BOLUSANTHUS SPECIOSUS (Bolus) Harms.**

"This is an exceptionally beautiful tree, probably the handsomest native species we have. It should thrive well in any region where oranges grow." (*Legat.*)

**21809. TRICHILLIA EMETICA Vahl.**

From Lower Umzinkulu, Natal. Collected by Miss Reid, September, 1907.

"A fine shade tree for comparatively frostless regions." (*Legat.*)

**21810. CITRUS NOBILIS Lour.****Tangerine.**

From Canton, Kwangtung, China. Presented by Dr. J. R. Huffaker, Brookfield, Mo. Received January 16, 1908.

"Seeds of the 'Golden orange,' so called by the Americans, and 'Honey orange' by the Chinese. The peel is quite loose, and sections easily separated, tender, very rich, juicy, and sweet." (*Huffaker.*)

**21812. CYDONIA JAPONICA (Thunb.) Pers.****Japanese quince.**

From Shanghai, Kiangsu, China. Presented by Rev. J. M. W. Farnham, D. D. Received January 15, 1908.

"Seeds of a very large native quince." (*Farnham.*)

**21813 to 21817. VIGNA UNGUICULATA (L.) Walp.****Cowpea.**

From Macassar, Celebes, Dutch East Indies. Presented by Mr. Wiebe P. de Jong, American consular agent. Received January 6, 1908.

**21813. Cream.****21816. Clay.****21814. Whippoorwill.****21817. Black.****21815. Black-Eye.****21818. GLYCINE HISPIDA (Moench) Maxim.****Soy bean.**

From Paris, France. Purchased from Vilmorin-Andrieux & Co. Received January 17, 1908.

*Ito San.* Called by the French, *Yellow Etampes.*

**21819. PINUS GERARDIANA Wall.****Chilgoza pine.**

From Fort Sandeman, Baluchistan. Received from Lieut. Col. G. C. French, I. A., political agent in Zhob, through Prof. E. P. Stebbing, imperial forest zoologist to the Government of India, Calcutta, India, January 14, 1908.

"The Chilgoza pine, which bears an edible seed, is a moderate-sized tree confined in its native habitat to the inner dry and arid valleys of the northwestern Himalayas, from Kunawar westward, and in Gharwal. It is found in isolated areas of not great extent, and generally at altitudes between 6,000 and 12,000 feet. The trees are seen at their best at an elevation of about 8,000 feet, where they reach a height of 70 to 85 feet, with a girth of 9 to 12 feet. The species is quite hardy, as in a part of its range it often grows on what appears to be solid limestone rock, enduring high winds and severe winters with heavy snowfalls. The precipitation in the Chilgoza region is mostly in the form of snow and is only about 8 inches per annum.

"The chief product of this tree is the edible seed, nearly an inch in length, contained in the cones. The seeds are very nutritious and agreeable in flavor; they form a staple food of the inhabitants of Kunawar. A full-sized cone yields over 100 seeds, and each tree produces 15 to 25 cones." (*From letter of Consul-General Michael, March 21, 1907, and Forest Bulletin No. 7, 1906, by Mr. E. P. Stebbing, of India Forest Department.*)

"This tree is also common in northern Afghanistan." (*W. F. Wight.*)

**21820. XIPHAGROSTIS CONDENSATUS (Hack.) W. F. Wight. (MISCANTHUS CONDENSATUS Hack.)**

From Yokohama, Japan. Purchased from the Yokohama Nursery Company. Received January 18, 1908.

(For description see No. 10524.)

**21823. LANSIUM DOMESTICUM Jack.****Doekoe.**

From Manila, P. I. Presented by Mr. W. S. Lyon. Received January 6, 1908.

Philippine local name *Lanzon*; Java name *Doekoe*. "I have met it more or less widely throughout the archipelago, but, so far as I know, it only fruits abundantly and well in Laguna Province, Luzon, and in widely remote Jolô.

"Fruits should become thoroughly mature before picking; those commonly found in the markets are picked when immature. I have sent ripe fruits from Manila to Yokohama (eleven days) and green ones to Honolulu (twenty-one days) successfully." (*Lyon*.)

**21824 and 21825.**

From Hokkaido, Japan. Presented by Mr. K. Hashimoto, Kuchchau Agricultural Society, Abutagun. Received January 14, 1908.

**21824. PHASEOLUS ANGULARIS (Willd.) W. F. Wight. (DOLICHOS ANGULARIS Willd.)****Adzuki bean.**

Red. "Used in making ari." (*Hashimoto*.)

**21825. GLYCINE HISPIDA (Moench) Maxim.****Soy bean.**

*Amherst* (?). "Used in the manufacture of 'soy,' 'miso,' 'tifu,' etc." (*Hashimoto*.)

**21826. XANTHOSOMA SAGITTAEFOLIUM (L.) Schott,****Yautia.**

From Georgetown, British Guiana. Presented by Mr. Donald Mitchell, American vice and deputy consul, through Mr. O. W. Barrett. Received September 4, 1906.

"The tubers of this variety were mingled with those of No. 19149, but when grown proved to be distinct from any other variety of yautia (?) in the collection." (*Barrett*.)

**21827. MEDICAGO SATIVA L.****Alfalfa.**

From Chinook, Mont. Purchased from Mr. F. G. Cooper. Received January 22, 1908.

*Grimm*.

**21828 and 21829. MEDICAGO SATIVA L.****Alfalfa.**

From the Sevier Valley, near Oasis, Utah. Purchased from Mr. A. F. Bliss, Deseret, Utah. Received January 22, 1908.

21828. First crop.

21829. Second crop.

**21830 and 21831. GLYCINE HISPIDA (Moench) Maxim. Soy bean.**

From Hokkaido, Japan. Presented by the Yokohama Nursery Company, Yokohama, Japan. Received January 24, 1908.

21830. *Butterball*. Japanese name *Akita*.

21831. Japanese name *Rumoi*.

**21834 to 21836. ANDROPOGON SORGHUM (L.) Brot. Kafir.**

From Maiduguri, Bornu, Sudan, Africa. Presented by Prof. J. Burt Davy, agrostologist and botanist, Transvaal Department of Agriculture, Pretoria, Transvaal. Received January 27, 1908.

21834. *Black-Hull.*

21836. *White Matakwa.*

21835. *Red Matakwa.*

**21837. BAMBOS ARUNDINACEA Retz. Bamboo.**

From Sibpur, Calcutta, India. Presented by Capt. A. T. Gage, superintendent, Royal Botanic Garden, through Mr. W. W. Smith. Received January 28, 1908.

(For description see No. 21317.)

**21838. TRITICUM AESTIVUM L. Wheat.**

From Vomero, Naples, Italy. Presented by Dr. C. Sprenger. Received January 28, 1908.

"The kind of grain which is used for the straw-plaiting industry of Italy is *Triticum aestivum* var. *crimeron*, called commonly in Italian *Grano Marzuolo*.

"There are two undervarieties known, the *Santa Fiora* and the *Semone*, which are cultivated on poor, thin land. The seed is planted in the month of November and also in February, and sown very thickly. We pull it up when the ear begins to be formed." (*Angiolo Pucci*.)

"The straw used in the plaiting industry is that of a special kind of very dwarf wheat; it is sown in November (in Italy). The straw is dried and afterwards blanched with sulphur. This blanched straw is the material used in all industries of this kind." (*Sprenger*.)

**21860. CANARITUM LIZONICUM (Blume) Gray. Pili nut.**

From Manila, P. I. Presented by Mr. George A. Spooner, Pay Department, U. S. Army, Chicago, Ill. Received January 25, 1908.

"This nut is largely used in the Philippine Islands and East Indies for food. It is said that the flavor is finer when the meat is blanched and salted, after the manner in which salted almonds are prepared." (*Ralph A. Gould*.)

**21861. DIMORPHOTHECA SPECTABILIS Schlechter.**

From Barberton, Transvaal. Presented by Mr. George Thorncroft. Received January 18, 1908.

"Habitat: Grows on stony hills, altitude 6,000 feet. Flowers in September, with the first shower of rain. (We get no rain here from the end of March until August.) It is the handsomest of all our daisies." (*Thorncroft*.)

"The plant grows 30 to 45 centimeters high and has bright purple rays about 2.5 centimeters long and a purple disk." (*Schlechter*.)

**21862 and 21863. SPERGULA ARVENSIS L. Spurry.**

From Paris, France. Purchased from Vilmorin-Andrieux & Co. Received January 30, 1908.

21862. *Corn or Common.*

21863. *Giant.*

**21864. DIOSCOREA DECAISNEANA Carr. Yam.**

From Paris, France. Purchased from Vilmorin-Andrieux & Co. Received January 30, 1908.

**21865. COLEUS AMBOINICUS Lour.**

From Toco, Trinidad. Collected by Mr. O. W. Barrett in October, 1907,

**21867. MEDICAGO SATIVA L.****Alfalfa.**

From Juab Valley, near Nephi, Utah. Purchased from Mr. Oliver Wilson.  
Received February 6, 1908.

*Dry-Land.*

**21868 and 21869. ANDROPOGON SORGHUM (L.) Brot.****Kafir.**

From Chillicothe, Tex. Grown by Mr. A. B. Conner, season of 1907.

**21868. *Black-Hull.*** "Original selection made on farm of Mr. T. F. Moody, Canadian, Tex., in 1905, and grown in head-to-row plots at the Chillicothe Testing Station since that date." (*Conner.*)

**21869. *Black-Hull.*** "Original selection made on farm of Mr. Noblett, Chillicothe, Tex., in 1905, and grown in head-to-row plots at the Chillicothe Testing Station since that date." (*Conner.*)

**21870. CITRUS DECUMANA (L.) Murr.****Pomelo.**

From Amoy, China. Presented by Mr. W. H. Wallace, manager, Hongkong-Shanghai Bank. Received February 7, 1908.

*Amoy.* "The *Amoy* pomelos are noted among Europeans and Americans along the coast of China for their excellent quality. According to Mr. Rea Hanna, formerly of the consulate at Amoy, this variety is equal in quality to the best Florida-grown varieties with which he is familiar." (*Fairchild.*)

**21871 to 21874.**

From Zichron-Jacob, Caiffa, Palestine. Presented by Mr. A. Aaronsohn.  
Received October 30, 1907.

**21871. TRITICUM DICOCCUM** Schrank.

**Emmer.**

From above Medschoel esch-Schems.

**21872. TRITICUM DICOCCUM** Schrank.

**Emmer.**

From vicinity of Rahle, between Raschaya and Kātana. Altitude about 1,500 meters.

**21873. TRITICUM MONOCOCCUM AEGILOPIOIDES** Asch. & G.

From Rahle.

**21874. HORDEUM SPONTANEUM** C. Koch.

From Mount Tabor. "Soil calcareous." (*Aaronsohn.*)

**21875 to 21932.**

From Peking, Chihli, China. Received through Mr. F. N. Meyer, agricultural explorer for this Department, February 7, 1908.

A miscellaneous collection of seeds and cuttings, as follows:

**21875. CASTANEA SATIVA** Mill.

**Chestnut.**

From Pangshan, Chihli, China. "(No. 833a, Nov. 24, 1907.) A wild chestnut found growing here and there in big groves on the rocky mountain slopes. The burrs containing the nuts are extraordinarily spiny. This chestnut may grow in regions where there is a slight rainfall and be utilized as a foresting tree. Chinese name *San li tse shu.*" (*Meyer.*)

**21876. QUERCUS** sp.

From Shutseshan, Chihli, China. "(No. 835a, Nov. 18, 1907.) Acorns of a chestnut oak, probably *Quercus chinensis*. Called by the Chinese *Siang tse shu*. They utilize the acorns for tanning and dyeing purposes, and also fatten hogs with them. It is a handsome tree, with long, serrated leaves, which remain on the tree for the greater part of the winter. Stands drought very well, but seems sensitive to great cold. May be of use as a foresting tree in the semiarid regions of the southwestern United States." (*Meyer.*)

## 21875 to 21932—Continued.

21877. JUGLANS REGIA SINENSIS C. DC.

Walnut.

From Pangshan, Chihli, China. "(No. 836a, Nov. 24, 1907.) A wild walnut found growing here and there between boulders. The nuts are not as sweet as the cultivated varieties, but otherwise there is little difference, except that the wild trees are not of as vigorous a growth as the cultivated ones." (Meyer.)

21878. MALUS BACCATA (L.) Moench.

Crab apple.

From Shinglungshan, Chihli, China. "(No. 837a, Dec. 2, 1907.) A wild crab apple, the fruits of which are not larger than green peas. An excellent stock for all kinds of crab apples. Chinese name *San tin tsc*. Scions sent under No. 183 (S. P. I. No. 21922)." (Meyer.)

21879. MALUS sp.

Crab apple.

From Jehol, Chihli, China. "(No. 838a, Dec. 10, 1907.) A cultivated crab apple. Chinese name *Gei tang*. Scions sent under No. 195 (S. P. I. No. 21927)." (Meyer.)

21880. PYRUS CHINENSIS Lindl.

Pear.

From Shinglungshan, Chihli, China. "(No. 839a, Dec. 2, 1907.) Seeds of a wild pear which grows here and there in big groves and assumes sometimes a large size, trunks 2 to 3 feet in diameter and 60 to 80 feet tall. May be utilized as grafting stock in northern regions. Scions sent under No. 184 (S. P. I. No. 21923)." (Meyer.)

21881. CELTIS sp.

Hackberry.

From Pangshan, Chihli, China. "(No. 851a, Nov. 24, 1907.) Probably *Celtis bungeana*. A small tree with rather broad leaves, growing in rocky locations. Of use in gardens and parks in rather dry regions." (Meyer.)

21882. CELTIS sp.

Hackberry.

From near Yenmenkwan, Chihli, China. "(No. 852a, Nov. 30, 1907.) Probably *Celtis bungeana*. Apparently the same as the preceding number (S. P. I. No. 21881)." (Meyer.)

21883. (Undetermined.)

From mountains of North China. "(No. 866a, Nov. 18 to Dec. 2, 1907.) A low shrub, 1 to 1½ feet high, flowering in early summer, with beautiful rosy flowers in short racemes; very floriferous. Grows in dry, rocky locations, covering sometimes whole mountain slopes. Well fitted for rockeries or as a bedding shrub in gardens in dry regions. Chinese name *Fan li hua*. Sent from Manchuria under No. 402a (S. P. I. No. 20127)." (Meyer.)

21884. LESPEDEZA sp. (?).

From Pangshan, Chihli, China. "(No. 867a, Nov. 20, 1907.) Probably *Lespedeza caraganae*. A rare shrub, 4 to 5 feet tall, found growing in rocky and sandy locations. Seems to like some shade. May be of use in sandy, dry regions." (Meyer.)

21885. LESPEDEZA sp.

From near Malanyu, Chihli, China. "(No. 868a, Nov. 29, 1907.) Probably *Lespedeza juncea*. A shrub forming many straight shoots, growing in sandy and rocky locations in the full sun. In Tsingtau it is extensively used for sand binding and for underwood in the Yemen government parks and nurseries. Sent also from eastern Siberia under No. 564a (S. P. I. No. 20335)." (Meyer.)

21886. LESPEDEZA sp.

From Shinglungshan, Chihli, China. "(No. 869a, Dec. 2, 1907.) Seeds of a leguminous, perennial herb found growing on very dry and rocky mountain slopes, having many slender, semierect stems which spring up in a tuft; very small, trifoliate leaves. May be of value on dry lands as sheep fodder, though the seed capsules are spiny when dry." (Meyer.)



## 21875 to 21932—Continued.

21887. *LESPEDEZA* sp.

From near Jehol, Chihli, China. "(No. 807a, Dec. 5, 1907.) Seeds of a leguminous, perennial herb found growing along very dry banks. Apparently a variety of No. 869a (S. P. I. No. 21886), but having much heavier and creeping stems, due perhaps to the location; otherwise the same remarks apply." (Meyer.)

## 21888. (Undetermined.)

From Pangshan, Chihli, China. "(No. 871a, Nov. 20, 1907.) An alfalfa-like plant. A leguminous, perennial herb growing in very dry and rocky places, throwing up a tuft of many slender, though very erect stems; small, trifoliate leaves and small racemes of very small, whitish flowers. Height  $2\frac{1}{2}$  to 3 feet. May be of value on dry land as a food for cattle." (Meyer.)

21889. *FALCATA JAPONICA* Oliver.

From mountains near Santchako, Chihli, China. "(No. 872a, Dec. 1, 1907.) Seeds of a Leguminosae of twining habit, similar to No. 617a (S. P. I. No. 20386). Of use as a fodder plant on land which is overrun with scrub, so as to give this bean support." (Meyer.)

21890. *INCARVILLEA SINENSIS* Lam.

From near Shinglungtang, Chihli, China. "(No. 874a, Dec. 4, 1907.) An herbaceous annual, bearing large, rose-red flowers in terminal racemes; finely pinnatifid leaves. Grows from 2 to 4 feet tall, often seen along new railroad embankments in Shansi. The leaves and stems are used by the Chinese as medicine, applied externally, when they have cold or rheumatism in their legs or knee joints." (Meyer.)

## 21891. (Undetermined.)

From near Shinglungtang, Chihli, China. "(No. 879a, Dec. 5, 1907.) An herbaceous, annual Labiate with bluish flowers containing a volatile perfume, like menthol; may be useful for extraction of this perfume. The Chinese use the plant medicinally for colds in the head, and it *does* clear when snuffed up through the nostrils in case of a cold. Seems to come close to the North American *Pycnanthemum linifolium* in containing so much menthol-like scent." (Meyer.)

21892. *ARTEMISIA ANNUA* L.

From Tientsin, Chihli, China. "(No. 885a, Oct. 7, 1907.) A biennial herb used for grafting large-flowered chrysanthemums upon when it throws up its flowering stem in the second year. Chinese name *Yu hou*." (Meyer.)

21893. *CHRYSANTHEMUM STIPULACEUM* Moench. (*CHRYSANTHEMUM SINENSE* Sabine, 1825.) (*ANTHEMIS STIPULACEA* Moench, 1802.) *Chrysanthemum*.

From Pangshan, Chihli, China. "(No. 886a, Nov. 19, 1907.) Seeds of the original type of chrysanthemum, from which most of the cultivated ones have been derived; flowers vary in color from pure white to purple. Deserves to be naturalized as a wild flower in rocky localities. Used medicinally by the Chinese (like tea, when suffering from a cold). Chinese name *Hsu hua*." (Meyer.)

21894. *CHRYSANTHEMUM INDICUM* L.*Chrysanthemum*.

From Pangshan, Chihli, China. "(No. 887a, Nov. 19, 1907.) An original type of chrysanthemum, from which probably the yellow varieties of cultivated chrysanthemums have been derived. Always yellow, though there is a slight variation in its shading. Used as a medicine by the Chinese, like the preceding number (S. P. I. No. 21893)." (Meyer.)

21895. *ERAGROSTIS* sp.

From Tungling, Chihli, China. "(No. 888a, Nov. 29, 1907.) An uncommon, graceful grass growing from  $2\frac{1}{2}$  to 3 feet tall; found along dry ditches." (Meyer.)



## 21875 to 21932—Continued.

21896. *ARUNDINELLA ANOMALA* Steud.

From Tungling, Chihli, China. "(No. 889a, Nov. 29, 1907.) A tall, coarse grass, 3 to 5 feet tall, found growing here and there in large masses; of a spread-out growth. May be of use as a fodder grass." (Meyer.)

21897. *ANDROPOGON ISCHAEMUM* L.

From Tungling, Chihli, China. "(No. 890a, Nov. 29, 1907.) A medium tall grass growing here and there on level stretches in large quantities." (Meyer.)

21898. *SPODIOPOGON SIBIRICUS* Trin.

From Tungling, Chihli, China. "(No. 891a, Nov. 29, 1907.) A rare, very tall grass, 6 to 7 feet high, growing in solitary clumps." (Meyer.)

21899. *PENNISETUM COMPRESSUM* R. Br.

From near Yenmenkwan, Chihli, China. "(No. 892a, Nov. 30, 1907.) Seed of a rare grass growing in heavy clumps here and there along water courses." (Meyer.)

21900. *PENNISETUM FLACCIDUM* Griseb.

From near Lanshang, Chihli, China. "(No. 893a, Dec. 3, 1907.) A low grass, 1½ to 2 feet high, growing in vast quantities on sandy, level stretches." (Meyer.)

21901. *PHASEOLUS VULGARIS* L.

Bean.

From Pangshan, Chihli, China. "(No. 894a, Nov. 21, 1907.) A strange bean used as a vegetable." (Meyer.)

21902. *CUCURBITA PEPO* L.

Pumpkin.

From Pangshan, Chihli, China. "(No. 895a, Nov., 1907.) A large pumpkin, used as a vegetable when boiled; also baked in the oven entire and used then as a delicatessen." (Meyer.)

21903. *CITRULLUS VULGARIS* Schrad.

Watermelon.

From Pangshan, Chihli, China. "(No. 896a, Nov. 21, 1907.) Said to be a white-meat watermelon of very good taste." (Meyer.)

21904. *CITRUS* sp.

From Peking, Chihli, China. "(No. 897a, Dec. 24, 1907.) A large-fruited citrus, the fruits of which are sold as room perfumers. The meat is very bitter and sour and scarcely edible." (Meyer.)

21905. *CITRUS LIMONUM* Risso.

Lemon.

From Peking, Chihli, China. "(No. 898a, Dec. 24, 1907.) A large, very juicy lemon, not too sour; the fruits are almost seedless and have a very thin rind. Purchased on the street." (Meyer.)

21906. *CELOSIA ARGENTEA* L.

Cockscomb.

From Tsuichiachuang, Shantung, China. "(No. 900a, Nov., 1907.) A variety of cockscomb said to grow in a globular head; very rare. Sent to me by Rev. A. C. Moule, of Taian, Shantung." (Meyer.)

21907. *VITIS* sp.

From Pangshan, Chihli, China. "(No. 153, Nov. 20, 1907.) A *Vitis* bearing large, deeply lobed leaves and small clusters of bluish white berries. Grows in dry, rocky situations. May be of use as a cover plant for large rockeries or for planting on terraces, where the branches may hang down so as to create a better effect." (Meyer.)

21908. *AMYGDALUS DAVIDIANA* (Carr.) Dippel.

Peach.

From Pangshan, Chihli, China. "(No. 154, Nov. 30, 1907.) A variety found growing in very dry and exposed places. Of use as a garden shrub in semiarid regions. Also an excellent stock for apparently all of the stone fruits." (Meyer.)

## 21875 to 21932—Continued.

21909. *BERBERIS* sp.

Barberry.

From Pangshan, Chihli, China. "(No. 160, Nov. 20, 1907.) Probably *Berberis chinensis*. A low-growing barberry of a very spreading habit. Seems to be able to withstand drought extraordinarily well. Not highly ornamental, but may be of use for planting on very sterile and dry soils. The scarlet berries seem to remain a long time upon the shoots, and for this reason it may be found useful as a winter ornamental bush." (Meyer.)

21910. *DIOSPYROS KAKI* L. f.

Persimmon.

From Pangshan, Chihli, China. "(No. 161, Nov. 21, 1907.) A very rare, delicious persimmon called *Siang shi tse*. Of medium size, 2 to 3 inches in diameter, flat, but not having a circular incision; of orange-red color; very thin skinned; has generally 3 to 6 seeds in its fruits; is of very sweet and fresh taste. Only one tree known to exist, that being near an old temple. Is not a shipper, but can be kept until February when handled carefully." (Meyer.)

21911. *PYRUS CHINENSIS* Lindl.

Pear.

From Pangshan, Chihli, China. "(No. 166, Nov. 23, 1907.) A round, hard pear of medium size. Has a high red blush and looks strikingly like an apple. Chinese name *Hong li*, meaning red pear. Can be kept until early summer." (Meyer.)

21912. *PYRUS CHINENSIS* Lindl.

Pear.

From Pangshan, Chihli, China. "(No. 167, Nov. 23, 1907.) A small pear of canary-yellow color; egg shaped with a long peduncle; hard meated, but very sweet and juicy; a good keeper. Chinese name *Mi li*, meaning honey pear." (Meyer.)

21913. *PYRUS CHINENSIS* Lindl.

Pear.

From Pangshan, Chihli, China. "(No. 168, Nov. 23, 1907.) A hard, round, apple-shaped pear of a russet color; of rather coarse texture; a good keeper and shipper. May be good for cooking purposes. Chinese name *Tang li*." (Meyer.)

21914. *PYRUS CHINENSIS* Lindl.

Pear.

From Pangshan, Chihli, China. "(No. 169, Nov. 23, 1907.) A hard but juicy pear of medium size, barrel shaped, and of a pale straw-yellow color. A very good keeper and shipper. Chinese name *Ma li*." (Meyer.)

21915. *MALUS* sp.

Crab apple.

From Pangshan, Chihli, China. "(No. 170, Nov. 23, 1907.) A sweet, white crab apple of flat shape, like the saucer peach; a rare variety; does not keep well. Chinese name *Sa kua*." (Meyer.)

21916. *MALUS* sp.

Crab apple.

From Pangshan, Chihli, China. "(No. 171, Nov. 23, 1907.) A sour, red crab apple of flat shape, like the saucer peach. A rare local variety and like the preceding number (S. P. I. No. 21915) does not keep well. Chinese name *Ly tse*." (Meyer.)

21917. *PYRUS CHINENSIS* Lindl.

Pear.

From Pangshan, Chihli, China. "(No. 175, Nov. 23, 1907.) A very thrifty growing pear, said to be a variety of No. 169 (S. P. I. No. 21914). Not named, however. All of these pears look more like apples than like pears so far as habits and general looks are concerned. The bark on the tree is smooth and on the younger branches even shining so as to absorb a minimum of heat during the winter and spring. These retarding qualities may be of much value in breeding experiments." (Meyer.)

21918. *PYRUS CHINENSIS* Lindl.

Pear.

From Tungling, Chihli, China. "(No. 177, Nov. 29, 1907.) A very thrifty form of the wild pear, used everywhere in the north as a grafting stock for the cultivated varieties of pears." (Meyer.)

## 21875 to 21932—Continued.

## 21919. RHODODENDRON sp.

From Shinglungshan, Chihli, China. "(No. 180, Dec. 2, 1907.) Probably *Rhododendron micranthum*. A small-leaved, semi-evergreen bush bearing small clusters of yellowish white flowers in early summer. Is always found growing at elevations from 3,000 to 8,000 feet." (Meyer.)

## 21920. ULMUS sp.

Elm.

From Shinglungshan, Chihli, China. "(No. 181, Dec. 2, 1907.) An elm growing to be a tall tree, bearing broad leaves. The trees when young have corky wings all along their branches, which makes them look striking. Seems to thrive best in somewhat moist soil." (Meyer.)

## 21921. CRATAEGUS PINNATIFIDA Bunge.

Hawthorn.

From Shinglungshan, Chihli, China. "(No. 182, Dec. 2, 1907.) A very hardy hawthorn with glistening white twigs; may be of use as a fence plant in semiarid regions." (Meyer.)

## 21922. MALUS sp.

Crab apple.

From Shinglungshan, Chihli, China. "(No. 183, Dec. 2, 1907.) The very hardy, small-fruited crab apple, upon which the Chinese graft their improved forms of crab apples. Chinese name *San tin tse*." (Meyer.)

## 21923. PYRUS CHINENSIS Lindl.

Pear.

From Shinglungshan, Chihli, China. "(No. 184, Dec. 2, 1907.) The fruits of these wild pear trees become edible after the heavy frosts, but are not particularly fine; the wood, though, is much wanted for the manufacture of printing blocks and for comb making. The trees might be grown in parks as ornamental, hardy trees. Planted in a clump they are very effective." (Meyer.)

## 21924. PRUNUS TOMENTOSA Thunb. (?)

Cherry.

From near Laushang, Chihli, China. "(No. 186, Dec. 3, 1907.) The wild bush cherry. A very hardy shrub of dense, bushy habit. May be of use in parks and gardens in semiarid regions. Can be propagated by budding on *Amygdalus davidiana* and by division, layering, and sowing. Chinese name *Shan ying tau*." (Meyer.)

## 21925. HYDRANGEA sp.

From near Tungying, Chihli, China. "(No. 187, Dec. 4, 1907.) A tall, bushy hydrangea, bearing many umbels of apparently white flowers. A rare shrub, found (only twice) in rocky locations along a water course." (Meyer.)

## 21926. RHODODENDRON sp.

From near Tungying, Chihli, China. "(No. 189, Dec. 4, 1907.) A tall, bushy rhododendron, perfectly deciduous, bearing medium-sized clusters of lilac flowers in early summer. Of use as a shrub in rockeries. Grows apparently between 4,000 and 7,000 feet elevation." (Meyer.)

## 21927. MALUS sp.

Crab apple.

From Jehol, Chihli, China. "(No. 195, Dec. 10, 1907.) Chinese name *Gei tang*. The fruits are as large as good-sized cherries, of dark red color with a bluish tinge. Of a very fresh, sour taste and make good preserves. Are grafted upon the wild crab apple. They seem to be able to withstand drought and extremes in temperature very well." (Meyer.)

## 21928. PYRUS CHINENSIS Lindl.

Pear.

From Jehol, Chihli, China. "(No. 196, Dec. 10, 1907.) A medium-sized pear of pale yellow color and of soft, melting meat. Can be kept quite a while when handled carefully. Is a rare local variety. Chinese name *Pei soo li*." (Meyer.)

## 21875 to 21932—Continued.

21929. *PYRUS CHINENSIS* Lindl.

Pear.

From Jehol, Chihli, China. "(No. 197, Dec. 10, 1907.) A remarkable pear, being flat apple-shaped, of green-yellowish color; hard until spring, when it becomes melting; has a peculiar sour taste. Makes excellent preserves for use with game or fowl. Chinese name *Ta suan li*, meaning large, sour pear." (Meyer.)

21930. *PYRUS* sp.

Pear.

From Jehol, Chihli, China. "(No. 198, Dec. 10, 1907.) A medium-sized pear; hard, but juicy and sweet; dark canary-yellow colored. A good keeper. A rare local variety. Chinese name *Ten li*." (Meyer.)

21931. *PYRUS* sp.

Pear.

From Jehol, Chihli, China. "(No. 199, Dec. 10, 1907.) A small-sized pear of apple shape; has soft, melting meat with an agreeable tart flavor; of yellow color, with rosy red blush. Not anything extra. Chinese name *Guarr li*." (Meyer.)

21932. *ULMUS DAVIDIANA* Planch.

Elm.

From near Jehol, Chihli, China. "(No. 201, Dec. 11, 1907.) An elm growing to be a medium-sized tree with a round, spread-out head; when young has two corky wings along its young branches; is not a common tree at all. Grows in very dry and exposed localities. May be of use as a park and garden tree in the cold-wintered, semiarid regions of the United States." (Meyer.)

21933. *DIOSCOREA* sp.

Yam.

From Manila, P. I. Presented by Mr. William S. Lyon, through Mr. O. W. Barrett. Received February 11, 1908.

"It is entirely devoid of the gumminess so prized by the natives in such yams as 'Namé' and 'Tuguf.'" (Lyon.)

"*Raspberry*. This is a variety native to the virgin forests of Luzon and is never seen in cultivation on account of the difficulty of keeping the roots through the long dry season." (Barrett.)

21934. *VIGNA CATJANG* (Burm.) Walp.

Catjang.

From Sydney, New South Wales, Australia. Presented by the Department of Agriculture. Received January 20, 1908.

*Upright*. "This pea is the most upright of any of the varieties originally from India. This same pea was received in 1902, as Agros. No. 1488, from New South Wales, they having received it from India in 1901." (Nielsen.)

21935. *MEDICAGO SATIVA* L.

Alfalfa.

From Puno, Peru, near Lake Titicaca. Presented by Prof. Alberto L. Gadea, through Mr. Charles J. Brand. Received December, 1907.

*Andean*. "(P. L. H. No. 3262.) Grown at an altitude of 12,540 feet, 1907 crop." (Brand.)

21936. *ANDROPOGON SORGHUM* (L.) Brot.

Sorgo.

From Guymon, Okla. Presented by Mr. A. L. Johnson, through Mr. C. R. Ball, agronomist, Sorghum Investigations of the Bureau of Plant Industry. Received February 7, 1908.

*Gooseneck*. (?) "*Mexican Turfless*. I have grown this variety one year in Texas and one year in Oklahoma; it came originally from Mexico and was so named because of its Mexican origin and the fact that it does not turf or clod the ground as other varieties do. It is very leafy, an abundant stooler, and reaches a height of 4.5 feet under my conditions." (Johnson.)

**21937. ANDROPOGON SORGHUM (L.) Brot. Kafir.**

From Chillicothe, Tex. Grown by Mr. A. B. Conner, at the Chillicothe Testing Station, season of 1907.

*Black-Hull.* "(Agros. No. 1700.) Grown as a selection since 1905 at Chillicothe, Tex., by Mr. A. B. Conner. Original seed from Bomen, New South Wales, Australia, presented by Mr. G. Maurice McKeown, manager, Wagga Experiment Farm; received June 15, 1903. Numbered February 11, 1908, for convenience in keeping records." (Conner.)

**21938. MEDICAGO SATIVA L. Alfalfa.**

From near Excelsior, Minn. Received through Mr. A. B. Lyman, February 6, 1908.

*Grimm.* Crop of 1907.

**21939 to 21941.**

From Pretoria, Transvaal, South Africa. Presented by Prof. J. Burt Davy, government agrostologist and botanist, Transvaal Department of Agriculture. Received February 10, 1908.

**21939. TRITICUM AESTIVUM L. Wheat.**

*Harcmann.*

**21940. ANDROPOGON SORGHUM (L.) Brot. Kafir.**

*Red.* (No. 5.)

**21941. ANDROPOGON SORGHUM (L.) Brot. Sorghum.**

*White durra.* From the Kabyle Country, Algeria, April, 1907.

**21942. ASTRAGALUS SINICUS L.**

From Yokohama, Japan. Presented by the Yokohama Nursery Company. Received February 10, 1908.

*Giant.*

**21943. CEPHALOSTACHYUM PERGRACILE Munro. Bamboo.**

From Northern Circle, U. B., India. Presented by Mr. J. Copeland, Conservator of Forests, through the Chief Conservator of Forests, Burma. Received February 15, 1908.

(See No. 21236 for description.)

**21944. VICIA SATIVA L. Common vetch.**

From Pullman, Wash. Grown by Mr. W. M. Evans in 1907. Received December, 1908.

"The above was grown from seed of C. V. P. No. 0449, which was originally picked out of rye from Fair Oaks, Cal." (Nielsen.)

**21945. MEDICAGO SATIVA L. Alfalfa.**

From Sextorp, Nebr. Purchased from Mr. Lewis Brott. Received February 15, 1908.

*Dry-Land.* "This seed was grown on the high plains of western Nebraska for about twelve years. This strain is promising on account of its drought and cold resisting qualities. Crop of 1907. No hay crop is taken off when it is desired to produce seed." (Brand.)

**21946 to 21955.**

From Buitenzorg, Java. Presented by Dr. M. Treub, director of the Department of Agriculture. Received February 11, 1908.

**21946. GLYCINE HISPIDA (Moench) Maxim. Soy bean.**

"Zwart kadelee."



**21946 to 21955—Continued.**21947 to 21950. *DOLICHOS LABLAB* L.

Hyacinth bean.

21947. "*Katj: Ieda.*" 21949. "*Katj: Ypit idjo.*"21948. "*Katj: Ypit.*" 21950. "*Katj: Ypit poetih.*"21951 to 21953. *STIZOLOBIUM CAPITATUM* (Roxb.) Kuntze.21951. Black-seeded variety. 21953. "*Bengoek item.*"21952. "*Bengoek poetih.*"21954. *STIZOLOBIUM HIRSUTUM* (Wight & Arn.) Kuntze.21955. *STIZOLOBIUM CAPITATUM* (Roxb.) Kuntze.**21956. ANANAS SATIVUS** Schult. f.

Pineapple.

From Quito, Ecuador. Presented by Hon. W. C. Fox, American minister.  
Received December 7, 1907.

*Guayaquil*. (?) "This plant is undoubtedly the so-called Guayaquil variety, although its exact habitat is 'El Milagro,' about 30 miles inland from Guayaquil. The Guayaquil is undoubtedly the finest pineapple I have ever tasted."  
(Fox.)

**21957. PHRAGMITES KARKA** (Retz.) Trin.

From Sibpur, Calcutta, India. Presented by Capt. A. T. Gage, superintendent, Royal Botanic Garden. Received February 13, 1908.

"A grass very similar to *Phragmites communis*, but larger. Watt, Dictionary of Economic Products of India, vol. 6, p. 216, 1892, states that the stems are 8 to 12 feet high and are used for making baskets, chairs, hurdles, screens, and the tubes of 'hukahs.' Roxburgh, Flora of India, vol. 1, p. 348, 1832, states that the common Durma mats of Bengal are made of the stalks split open. Watt also says that according to Stewart a fiber is extracted from the upper part of the stems, and according to Atkinson the fiber of the flower stalks is manufactured into rope in the Kumaon Bhabar. Useful Plants of Japan, published by the Agricultural Society of Japan, 1895, p. 223, states that the grass is planted in water sides to protect mud from being washed away by waves, and that its young shoots are edible. Those produced in Udini village, of the Province of Setsu, are called Udonoyeshi and are very famous for their large and long stalks.

"Names in India: Hindu name, *Narkul*; Bengal name, *Nal*; Kumaon names, *Karka*, *Nal*, *Khaila*. Japanese names: *Jositake*, *Joosk* or *Sinagosa*, *Josi*, *Yoshi*, *Ashi*." (W. F. Wight.)

**21958. PANICUM MAXIMUM** Jacq.

Guinea grass.

From Santiago de las Vegas, Cuba. Presented by Prof. H. Benton, chief, Department of Agriculture, through M. C. V. Piper. Received February 13, 1908.

**21959. BERBERIS VULGARIS JAPONICA** Regel.

From Jamaica Plain, Mass. Presented by Prof. C. S. Sargent, of the Arnold Arboretum. Received February 17, 1908.

For experiments in the breeding of barberries.

**21960. QUERCUS CORNEA** Lour.

From Hongkong, China. Presented by Mr. S. T. Dunn, superintendent, Botanical and Forestry Department. Received February 20, 1908.

(See No. 10633 for description.)



**21961. PANICUM PLANTAGINEUM Link.**

From Biloxi, Miss. Grown by Prof. S. M. Tracy, season of 1907. Received January, 1908.

"Seed from a single plant growing with No. 19158, Natal grass, at Biloxi, Miss. A very promising grass for that locality." (*Piper*.)

**21962. MEDICAGO SATIVA L.****Alfalfa.**

From Mecca, Cal. Presented by Mr. E. Brauckman, through Mr. J. M. Westgate. Received February 20, 1908.

"Seed from Arabian alfalfa, No. 12992, supposedly crossed with ordinary alfalfa which was grown alongside of it." (*Westgate*.)

**21963 and 21964.**

From Guatemala. Collected by Prof. W. A. Kellerman, Ohio State University, Columbus, Ohio. Presented through Dr. J. N. Rose, of the United States National Museum, Washington, D. C. Received February 20, 1908.

**21963. DAHLIA IMPERIALIS Roezl.**

"(Kellerman's No. 7072; Rose's No. 08/17.) Plants of this species found growing 18 feet high." (*Kellerman*.)

**21964. BEAUCARNEA GUATEMALENSIS Rose.**

"(Kellerman's No. 7029; Rose's No. 08/16.) Tree 6 to 12 meters high, with a thickened bulbous base abruptly tapering into a slender stem 5 to 8 centimeters in diameter; the swollen base covered with corky bark 6 centimeters thick; upper part of stem smooth, with very thin bark; leaves numerous, slightly roughened on both surfaces, clustered at the top as in the common cultivated *Beaucarneas*, erect (?), broad at base (40 to 50 millimeters), 10 to 15 millimeters broad above the base and gradually tapering upward into a long filiform top 60 to 80 centimeters long, the margin entire; the male inflorescence an open panicle, 60 to 90 centimeters long; female inflorescence not seen; fruit 15 millimeters long, strongly three winged; wings thin, 4 to 5 millimeters broad.

"Collected halfway up the side of the Sierra de las Minas, opposite El Rancho, Guatemala, April 10, 1905 (Kellerman's No. 4320).

"This species belongs with *B. incrimis* and *B. plibilis*, but the fruit is broader winged than the former and the leaves are broader than in the latter." (*Rose*.)

**21965. TRICHILIA EMETICA Vahl.**

From Pretoria, Transvaal, South Africa. Presented by Prof. J. Burt Davy, government agrostologist and botanist, Transvaal Department of Agriculture. Received February 24, 1908.

"This is one of our most ornamental evergreen shade trees, yielding an oil known as 'Maawa,' of which I understand there is some export from Portuguese East Africa to Marseille." (*Davy*.)

**21966. CHAYOTA EDULIS Jacq.****Chayote.**

From St. Rose, La. Presented by Mr. Henry McCall. Received February 24, 1908.

"A large, smooth, light green and very prolific variety raised in Louisiana, but original source unknown. To be distributed to growers in the South with the object of encouraging its culture for the market." (*Fischer*.)

**21967 to 22023.**

From Peking, Chihli, China. Received through Mr. F. N. Meyer, agricultural explorer for this Department, at the Plant Introduction Garden, Chico, Cal., February 12, 1908.

## 21967 to 22023—Continued.

A collection of seeds, as follows:

21967. *CARAGANA CHAMLAGU* Lam. (?).

From Chinanfu, Shantung, China. "(No. 766a, Sept. 22, 1907.) A shrub growing to be 6 to 10 feet tall, bearing small pinnate leaves, quite spiny, said to be loaded with yellow flowers in spring. Chinese name *Kuei tsi ching*. Used as a hedge plant, and as such may be utilized in the more arid regions of the United States, as it stands drought remarkably well." (Meyer.)

21968. *GLEDITSIA HETEROPHYLLA* Bunge.

From Lungtung, Shantung, China. "(No. 767a, Sept. 25, 1907.) Chinese name *San tsao ko*. A very spiny shrub or small tree growing in dry, rocky localities. May serve as a hedge plant in the southwestern regions of the United States." (Meyer.)

21969. *ALBIZZIA* sp.

From near Boshan, Shantung, China. "(No. 768a, Sept., 1907.) Chinese name *Pai yung shu*. A small ornamental tree, with finely pinnated leaves and flowers with pale pink stamens. Not very common. When old makes the same impression as the yellow locust, *Robinia pseudacacia*." (Meyer.)

21970. *PISTACIA CHINENSIS* Bunge.

Pistache.

From Shantung Province, China. "(No. 769a, Sept. 16, 1907.) Chinese name *Huang tien tsun*. A very ornamental, graceful-growing tree which will be appreciated in the mild-wintered regions of the United States. Grows to a great age. The Chinese express out of the seeds an oil for burning purposes." (Meyer.)

21971. *CORNUS MACROPHYLLA* Wall.

From Lungtung, Shantung, China. "(No. 770a, Sept. 25, 1907.) A medium-sized tree, loaded at time of collecting with soapy, dark green berries, which are utilized by the Chinese for oil production, this oil being burned in lamps." (Meyer.)

21972. *CELTIS* sp.

Hackberry.

From Lungtung, Shantung, China. "(No. 771a, Sept. 25, 1907.) A small-leaved *Celtis*, growing in rocky situations. Attains only a small size when growing wild; if planted and cared for, however, seems to grow much larger." (Meyer.)

21973. *KOELREUTERIA PANICULATA* LAM.

Varnish tree.

From Lungtung, Shantung, China. "(No. 772a, Sept. 25, 1907.) A variety of the bladderpod tree with much larger leaves than the ordinary variety. The young dried shoots with foliage left on them are used by the Chinese as a green dye." (Meyer.)

21974. *VIBURNUM* sp.

From Lungtung, Shantung, China. "(No. 773a, Sept. 25, 1907.) A rather large leaved *Viburnum*, bearing black berries in fall. Probably the same as Nos. 390a and 391a (S. P. I. Nos. 20115 and 20116). Of use as an ornamental park shrub." (Meyer.)

21975. *VIBURNUM* sp.

From near Taichingkong temple, Shantung, China. "(No. 774a, Aug. 10, 1907.) A small-leaved *Viburnum*, bearing red berries. Apparently a very rare shrub; only one specimen seen in all the mountains. Of use as a small shrub in gardens and parks." (Meyer.)

21976. *VITEX INCISA* Lam.

From Lungtung, Shantung, China. "(No. 775a, Sept. 25, 1907.) A sage which may prove to be a good plant for the arid Southwestern States. It is able to resist alkali remarkably well. The Chinese use it here and there for basketry manufacture, taking the annual shoots

## 21967 to 22023—Continued.

for this purpose. It has pretty blue flowers and is diligently visited by all kinds of bees, and as such might be grown in gardens as a semi-ornamental shrub and as a honey plant. When left alone, grows 20 feet tall." (*Meyer.*)

21977. *PTEROCELTIS TATARINOWII* Maxim.

From Tuyung, Shantung, China. "(No. 776a, Sept. 25, 1907.) A large tree having a scaly whitish bark and small leaves." (*Meyer.*)

21978. *RHAMNUS* sp.

From Lungtung, Shantung, China. "(No. 777a, Sept. 25, 1907.) A shrubby *Rhamnus* with very small leaves, bearing black berries in fall. Branches, quite spiny. Of use as a hedge plant in rocky situations." (*Meyer.*)

21979. *VITIS* sp.

Grape.

From Boshan, Shantung, China. "(No. 779a, Sept. 18, 1907.) Chinese name, *Ya pu tao*. Bought on the market in Boshan; has small black berries, rather sour; grows wild here and there in the mountains. A good wine can be made from the berries, but a good wine from a Chinese point of view. Can be utilized as a stock in rather arid regions." (*Meyer.*)

21980. *VITIS* sp.

Grape.

From Lungtung, Shantung, China. "(No. 780a, Sept. 25, 1907.) A rare wild grape bearing small clusters of black berries, which are quite sweet. Leaves deeply incised." (*Meyer.*)

21981. *VITIS* sp.

Grape.

From Lungtung, Shantung, China. "(No. 781a, Sept. 25, 1907.) A wild grape, probably *Vitis labrusca*. A vigorous grower, overgrowing here and there whole trees and shrubs." (*Meyer.*)

21982. *PYRUS BETULAEFOLIA* Bunge.

From near Mongtchou, Chihli (?), China. "(No. 782a, Oct. 2, 1907.) A wild pear. Chinese name *Tu li* or *Do li*. Bears fruits not larger than green peas. Is used all over the country as a stock on which to graft pears; the Chinese claim it can be slipped very easily. Stands alkali remarkably well, and grows sometimes on pure sand. May be of value to the United States in the alkaline districts as a stock. Is also rather a nice shade tree, growing to a large size and flowering most profusely." (*Meyer.*)

21983. *PYRUS CHINENSIS* Lindl.

Pear.

From Boshan, Shantung, China. "(No. 783a, Sept. 20, 1907.) Chinese name, *Tang li*. A wild pear bearing small, brown-colored fruits of an insipid taste. Has beautiful, large, glossy leaves. Probably has given blood to some of the Chinese varieties of pears." (*Meyer.*)

21984. *CYDONIA* sp.

From Taichingkong temple, near Tsingtau, Shantung, China. "(No. 784a, Aug. 12, 1907.) Chinese name, *Hsau kua*. A large quincelike tree with a smooth bark; bears hard, round, yellow fruits, smelling like quinces, yet not like them. Is far from being common." (*Meyer.*)

21985. *PYRUS CHINENSIS* Lindl.

Pear.

From Chinaufu, Shantung, China. "(No. 785a, Sept. 22, 1907.) Seeds from some very large pears. May prove to be new types." (*Meyer.*)

21986. *CRATAEGUS* sp.

Hawthorn.

From Boshan, Shantung, China. "(No. 786a, Sept. 20, 1907.) Chinese name *San li huang*. A yellow-fruited hawthorn, growing sparsely in the mountains and sold here on the market." (*Meyer.*)

## 21967 to 22023—Continued.

21987. CRATAEGUS PINNATIFIDA Bunge.

Hawthorn.

From Chingchowfu, Shantung, China. "(No. 787a, Aug. 22, 1907.) Chinese name *San li hong*. A small-fruited form of the Chinese hawthorn, much more sour than the larger varieties; is used by Chinese and foreigners as a preserve; is also a good substitute for cranberries and has the advantage that everybody can grow it in his own garden." (Meyer.)

21988. AMYGDALUS PERSICA L.

Peach.

From eastern China. "(No. 788a, June-Sept., 1907.) Peach stones collected in different parts of eastern China. Some good types may appear among them." (Meyer.)

21989. AMYGDALUS PERSICA L.

Peach.

From Feitcheng, Shantung, China. "(No. 789a, Sept. 1, 1907.) Some stones of the most famous peach of northern China, called the *Fei tao*. The fruits grow as heavy as 1 pound apiece and are pale yellowish colored, with a slight blush; meat white, except near the stone, where it is slightly red; taste excellent, sweet, aromatic, and juicy. Is a cling-stone. Has extraordinary keeping and shipping qualities. The branches need propping up on account of the weight of the fruits. Prefers well-drained, light, deep loam of a decomposed rocky origin." (Meyer.)

21990. AMYGDALUS PERSICA L.

Peach.

From Kianchau, Shantung, China. "(No. 790a, Aug. 13, 1907.) A flat, juicy, white peach of fine taste. Chinese name *Pai pien tao*." (Meyer.)

21991. AMYGDALUS PERSICA L.

Peach.

From Hangchow, Chehkiang, China. "(No. 791a, June 27, 1907.) A flat, red-meated peach, not very sweet in taste. Chinese name *Hung pien tao*." (Meyer.)

21992. AMYGDALUS PERSICA L.

Peach.

From near Chiningchou, Shantung, China. "(No. 792a, Sept. 6, 1907.) A flat, pale-fleshed peach, juicy but somewhat insipid. Grows in rather sterile localities." (Meyer.)

21993. ZIZYPHUS SATIVA Gaertn.

Chinese date.

From Shantung Province, China. "(No. 793a, Aug.-Sept., 1907.) Seeds collected at different points. Perhaps good varieties will appear among them." (Meyer.)

21994. ZIZYPHUS SATIVA Gaertn.

Chinese date.

From Chingchowfu, Shantung, China. "(794a, Aug. 22, 1907.) A fine, flat variety of jujube. Quite rare. Chinese name *Twen ku lu tsao*." (Meyer.)

21995. ZIZYPHUS LOTUS (L.) Lam.

From near Boshan, Shantung, China. "(No. 795a, Sept. 19, 1907.) A wild form of the 'jujube,' used for stock for the large-fruited varieties. Grows in the driest and most sterile locations. A very bad weed. Chinese name *Suan tsao*." (Meyer.)

21996. ZIZYPHUS SATIVA Gaertn.

Chinese date.

From Chinanfu, Shantung, China. "(No. 796a, Sept. 22, 1907.) A flat, brown-colored variety of the jujube. Very sweet. Chinese name *Tun ku yu tsao*." (Meyer.)

21997. PINUS BUNGEANA Zucc.

Pine.

From Taiyuanfu, Shansi, China. "(No. 797a, May 11, 1907.) Chinese name *Kuotse*. Sold on the streets as delicacies. Said to come from northern Shansi." (Meyer.)

## 21967 to 22023—Continued.

21998. DOLICHOS LABLAB L.

Hyacinth bean.

From Boshan, Shantung, China. "(No. 798a, Sept. 18, 1907.) Chinese name *Pai pich tau*. Are mostly eaten fresh; also are sliced like haricot beans and boiled. They will probably grow in the semiarid regions of the Southwestern States where the ordinary string beans fail. Mostly seen along the fields grown upon trellises." (Meyer.)

21999. GLYCINE HISPIDA (Moench) Maxim.

Soy bean.

From Boshan, Shantung, China. "(No. 799a, Sept. 18, 1907.) A rare variety of soy bean, sparsely grown near Boshan. Chinese name *Ta ha tau*. Used by the higher classes as a vegetable in soups." (Meyer.)

22000. PHASEOLUS RADIATUS L.

Mung bean.

From near Tientsin, Chihli, China. "(No. 800a, Oct. 4, 1907.) Small yellow beans. Chinese name *Huang lu tou*. A very rare variety, used for making bean vermicelli and for sprouting purposes." (Meyer.)

22001. MEDICAGO SATIVA L.

Alfalfa.

From Tchangtchou, Chihli, China. "(No. 801a, Oct. 2, 1907.) A rather short growing variety of alfalfa. Said to resist alkali and drought very well. Chinese name *Mu su*." (Meyer.)

22002. ORYZA SATIVA L.

Rice.

From Tsintse, Shansi, China. "(No. 802a, May 6, 1907.) A hard, wet-land rice. Chinese name *ying ta mi*. Grows in irrigated fields and is considered the very best rice of Shansi. Might be grown in the irrigated valleys of the Rocky Mountain States." (Meyer.)

22003. TRITICUM AESTIVUM L.

Wheat.

From Taiyuanfu, Shansi, China. "(No. 803a, May 11, 1907.) Chinese name *Hong mci*. The best red wheat to be had on the market. Thrives very well on alkaline lands. Is mostly grown as a winter wheat, though also in a limited degree as a summer crop. Stands irrigation well." (Meyer.)

22004. TRITICUM AESTIVUM L.

Wheat.

From Taiyuanfu, Shansi, China. "(No. 804a, May 11, 1907.) Chinese name *Pai mci*. The best white wheat for sale in Taiyuanfu. Grows well on strongly alkaline soils. Mostly grown as a winter wheat, though also as a summer crop. Is often irrigated when on high, dry land." (Meyer.)

22005. AVENA NUDA INERMIS (Körnicker) Asch. &amp; Graeb.

From Taiying, Shansi, China. "(No. 805a, Apr. 18, 1907.) Mountain oats. Chinese name *Shi yu mci*. Grows on sterile mountain sides and at high elevations. When ground up the meal is manufactured into vermicelli, cakes, bread, and patties. Furnishes the ordinary food for the mountain people." (Meyer.)

22006. FAGOPYRUM TATARICUM (L.) Gaertn.

From Lingchin, Shansi, China. "(No. 806a, Apr. 17, 1907.) Mountain buckwheat. A strange kind of buckwheat used as a summer crop on high, sterile lands. The grains are ground up and vermicelli and flat cakes are made from the flour. Chinese name *Chou mci*." (Meyer.)

22007. PISUM ARVENSE L.

Field pea.

From Taiyuanfu, Shansi, China. "(No. 807a, May 11, 1907.) Grayish pea. Chinese name *Wau tou*. The peas are boiled in soups and used as a vegetable when sprouted; the young tops, too, are picked and serve as greens. Is able to thrive on strongly alkaline soils. May do well in the northern Rocky Mountain States." (Meyer.)



## 21967 to 22023—Continued.

## 22008. PHASEOLUS VULGARIS L.

Bean.

From Taiyuanfu, Shansi, China. "(No. 808a, May 11, 1907.) Dwarf red bean. Chinese name *Hung tou*. Grows on rather alkaline soils; used green as haricot beans and also boiled, when dry, in soups. In warm localities can be grown twice during the season. May do well in the northern Rocky Mountain States." (Meyer.)

## 22009. AMYGDALUS DAVIDIANA (Carr.) Dippel.

From Tientsin, Chibli, China. "(No. 809a, Oct. 5 and 7, 1907.) Chinese name *Shan tao shu*. Sent under Nos. 728a and 9a (S. P. I. Nos. 21227 and 18262) on former occasions. Very resistant to droughts and alkaline matter. The Chinese use this tree as grafting stock for their flowering peaches and prunes; also as a stock for small bush cherries (*Ying tao*); even apricots are grafted on it. To be used as a stock for peaches, almonds, prunes, plums, etc." (Meyer.)

## 22010. ANDROPOGON SORGHUM (L.) Brot.

Sorghum.

From Chingshan, Shantung, China. "(No. 810a, Aug. 12, 1907.) Chinese name *Chi tse ya tse*. A very rare dwarf variety of sorghum, not growing higher than 3 feet and making dense heads. Grows on shallow, sterile soils and matures much earlier than the taller growing varieties. May do well in the semiarid regions of the western United States." (Meyer.)

## 22011. ANDROPOGON SORGHUM (L.) Brot.

Sorghum.

From near Chufoo, Shantung, China. "(No. 811a, Sept. 7, 1907.) A red-stemmed variety used in the manufacture of matings, of which pretty specimens may be seen once in a while." (Meyer.)

## 22012. ANDROPOGON SORGHUM (L.) Brot.

Sorghum.

From near Chungdün, Shantung, China. "(No. 812a, Sept. 29, 1907.) A very tall growing, loose-headed variety of sorghum. The thrashed-out heads are utilized in broom manufacture. Stands alkali well." (Meyer.)

## 22013. GARDENIA JASMINOIDES Ellis.

From Chinanfu, Shantung, China. "(No. 813a, Aug. 26, 1907.) Seeds of a dye plant. Chinese name *Tsi tsse*. Used in giving the bean jelly and bean vermicelli a clear yellow color. Probably a southern plant." (Meyer.)

## 22014. IRIS ENSATA Thunb.

From Taiying, Shansi, China. "(No. 814a, Apr. 18, 1907.) A very low-growing Iris; can stand lots of cold, drought, and trampling over. Grows at high altitudes, 3,000 to 5,000 feet. Perhaps fit as a rockery plant." (Meyer.)

## 22015. IRIS ENSATA Thunb.

From Wutaishan, Shansi, China. "(No. 815a, Apr. 25, 1907.) Probably the same as No. 814a (S. P. I. No. 22014), but growing at an elevation of 8,000 feet above sea level." (Meyer.)

## 22016. LYCIUM CHINENSE Mill.

Matrimony vine.

From Lungtung, Shantung, China. "(No. 816a, Sept. 28, 1907.) A matrimony vine growing in rocky hedges. Rather large, vivid red berries. May be of use as an ornamental porch vine." (Meyer.)

## 22017. SOLANUM sp.

From Boshan, Shantung, China. "(No. 817a, Sept. 19, 1907.) A rather ornamental Solanum bearing blue flowers, followed by scarlet berries. May be of use as a semiornamental vine." (Meyer.)

## 22018. ASPARAGUS sp.

From Boshan, Shantung, China. "(No. 818a, Sept. 19, 1907.) A wild, rather ornamental asparagus." (Meyer.)



**21967 to 22023—Continued.****22019. HEMEROCALLIS sp.**

From Laushan, Shantung, China. "(No. S19a, Aug. 5, 1907.) The flower buds of this fine, yellow, night-flowering lily are eaten by the Chinese, steamed like a vegetable, though very insipid." (*Meyer.*)

**22020. CAPNOIDES sp.**

From Taishan, Shantung, China. "(No. S20a, Sept. 10, 1907.) A yellow-flowering *Capnoides* growing at elevations from 3,000 to 5,000 feet. Quite ornamental when seen in its native haunts between rocks. May be of use as a rockery plant." (*Meyer.*)

**22021. SESAMUM ORIENTALE L.****Sesame.**

From near Laoliang, Shantung, China. "(No. S21a, Sept. 30, 1907.) Seeds from a large-growing variety of this useful oil plant. Could be grown in the semiarid regions of the southwestern United States as a fine oil producer." (*Meyer.*)

**22022. ARACHIS HYPOGAEA L.****Peanut.**

From Peking, Chihli, China. "(No. S24a, Oct. 22, 1907.) A small variety of peanut, said by the Chinese to contain much more oil than the larger ones. Is used all through the land as an appetizer, after having been steamed with salt water and then kept in weak brine. Quite nice to eat in that way." (*Meyer.*)

**22023. SOLANUM MELONGENA L.****Eggplant.**

From Peking, Chihli, China. "(No. S25a, Nov. 5, 1907.) Golden egg-plant. Chinese name *Chin cha*. Is often grown as an ornamental pot plant by the Chinese, bearing fruits just about the size of a small egg, which when young are white colored, later on turning into a golden yellow. If not known will be appreciated as a novelty." (*Meyer.*)

**22024. WIDDRINGTONIA WHYTEI Rendle.**

From Mlanji, Nyassaland, British Central Africa. Presented by Mr. Henry Brown, through Mr. O. W. Barrett. Received February 24, 1908.

"Seed taken from cedar trees 100 feet high and 14 feet in circumference. The tree is a fast grower and makes a handsome avenue tree. It grows at elevations varying from 2,000 to 8,000 feet. The wood is scented and very oily, burning like a candle when dry. It is used here for furniture making, etc." (*Brown.*)

**22025. DOLICHOS LABLAB L.****Hyacinth bean.**

From Arlington Experimental Farm, Virginia. Grown during the season of 1907 under C. V. P. No. 0107. Received in autumn of 1907.

"Original seed presented by J. M. Thorburn & Co., New York.

"An early variety, which matured before all others at Arlington Farm. Promising for growing with corn for hay or silage." (*Piper.*)

**22026. PANICUM MAXIMUM Jacq.****Guinea grass.**

From Saharunpur, Northwest Province, British India. Presented by Mr. A. C. Hartless, superintendent, Government Botanic Gardens. Received February 25, 1908.

**22027. TRITICUM sp.****Wheat.**

From Lima, Peru. Presented by Mr. T. F. Sedgwick, director, Estación Experimental. Received February 25, 1908.

"*Cardial*. Seed of a large-kerneled wheat grown in the mountain districts of Peru." (*Sedgwick.*)

"This is either a Polish wheat or one of the large-kerneled durumms, a question which could be determined on seeing it growing in the field. It is something that would be very interesting for some of our work in the intermountain districts; also for use in dry-land cereal work." (*Carleton.*)

**22029. ASPARAGUS AFRICANUS Lam.**

From Pretoria, Transvaal, South Africa. Presented by Prof. J. Burt Davy, government agrostologist and botanist, Transvaal Department of Agriculture. Received February 18, 1908.

For the use of asparagus breeders.

**22031 and 22032. STIZOLOBIUM CAPITATUM (Roxb.) Kuntze.**

From Australia. Presented by Mr. J. H. Maiden, director, Botanic Gardens, Sydney, New South Wales, through Mr. C. V. Piper. Received February 21, 1908.

22031. *Black Mauritius* bean. From Sydney, New South Wales.

22032. *Black Mauritius* bean. From Kamerunga, Cairns, Queensland.

**22033. GLYCYRRHIZA GLABRA L.****Licorice.**

From Patras, Greece. Presented by Hon. F. B. Wood, British consul. Received February 25, 1908.

"Licorice roots from the plants which grow wild in this country." (Wood.)

**22034. LATHYRUS MARITIMUS (L.) Bigel.****Beach pea.**

From Woods Hole, Mass. Procured by Mr. A. J. Pieters, Hollister, Cal., in October, 1903, and presented to the Department December 27, 1907.

**22035. TRIFOLIUM SUAVEOLENS Willd.****Fragrant clover.**

From Erfurt, Germany. Purchased from Mr. Ernst Benary. Received February 29, 1908.

"An annual clover sparingly used as an ornamental, but which may prove to be useful when used after the manner of crimson clover. It is perfectly hardy as far north as Washington." (Piper.)

**22036 to 22049. PISUM ARVENSE L.****Canada field pea.**

From Brandon, Manitoba, Canada. Presented by Mr. James Murray, experimental farm, through Mr. C. V. Piper. Received February 28, 1908.

22036. *Agnes*.

22043. *Nelson*.

22037. *Archer*.

22044. *Paragon*.

22038. *Arthur*.

22045. *Picton*.

22039. *Chancellor*.

22046. *Prince*.

22040. *Daniel O'Rourke*.

22047. *Prince Albert*.

22041. *Gregory*.

22048. *Victoria*.

22042. *Mackay*.

22049. *Wisconsin Blue*.

**22050. VIGNA UNGUICULATA (L.) Walp.****Cowpea.**

Grown at Amarillo, Tex., by Mr. A. H. Leidigh, Grain Investigation Experiment Farm, season of 1907.

Turney's *Black-Eye*. "Original seed procured from Mr. Turney, Channing, Tex., through Mr. Leidigh, spring of 1905." (Conner.)

**22051 to 22055. VIGNA UNGUICULATA (L.) Walp.****Cowpea.**

Grown at Arlington Experimental Farm, Virginia, season of 1907.

22051. *Speckled Crowder*.

"(S. Lab. No. 51136.) Original seed procured from Mr. J. B. Bremie, Tazewell, S. C., through the Seed Laboratory, spring of 1907." (Nielsen.)

## 22051 to 22055—Continued.

22052. *Black Crowder.*

"(S. Lab. No. 52460.) Original seed procured from Mr. Simeon Fippin, R. F. D. No. 4, Cookeville, Tenn., through the Seed Laboratory, spring of 1907." (*Nielsen.*)

22053. *Near Michigan Favorite.*

"(S. Lab. No. 51580.) Original seed procured from Mr. T. M. Marshall, R. F. D. No. 4, Walnut Cove, N. C., through the Seed Laboratory, season of 1907." (*Nielsen.*)

22054. *Voluntecr.*

"Original seed grown by Mr. J. P. Hogan, Robinsonville, Miss. Presented to the Department by Mr. Joseph Vault, Nashville, Tenn., who procured the seed April 16, 1907.

"This pea has been grown near the mouth of the Arkansas River in Arkansas and across the Mississippi River in Mississippi for at least forty years, having volunteered from year to year in all that time. It is apparently very prolific." (*Nielsen.*)

22055. *Volunteering Iron.*

"Originally planted on Arlington Experimental Farm for seed in 1904, and has volunteered from year to year, this seed being saved in the fall of 1907. This is the only cowpea which has been known to volunteer at Arlington Farm, and may prove of value on that account." (*Nielsen.*)

22058 and 22059. *HORDEUM* spp.

## Barley.

From Madison, Wis. Presented by Prof. R. A. Moore, Agricultural Experiment Station. Received March 2, 1908.

22058. *HORDEUM DISTICHON ERECTUM* Schubl.

*Primus.* Grown from No. 19779.

22059. *HORDEUM DISTICHON NUTANS* Schubl.

*Prinsess.* Grown from No. 19780.

22060. *ZEA MAYS* L.

## Corn.

From the Esperanza district, Puebla, Mexico. Secured by Prof. H. Pittier, of the Bionomic Investigations, Bureau of Plant Industry. Received February, 1908.

*Drought-Resisting.* "A variety cultivated on the high plateau between Mexico City and Orizaba, in a very dry climate, with little rain and subject to strongly marked extremes of temperature. An excellent type, producing medium-sized ears with very small cobs. Should be well adapted for the semi-arid districts of the Southwest." (*Pittier.*)

## 22061 to 22075.

From Hilo, Hawaii. Presented by Mr. L. C. Lyman, principal, Hilo Boarding School, through Mr. O. W. Barrett. Received March 4, 1908.

The following rhizomes:

22061 to 22065. *MUSA* spp.

## Banana.

22061. *Elcele.*22064. *Iholena.*22062. *Manaiula* or *Malaiula.*22065. *Acae* or *Striped.*22063. *Bolabola* or *Kusai.*22066 to 22075. *COLOCASIA* spp.

## Taro.

22066. *Ulaula Kumu.*22068. *Ohe.*22067. *Makaua.*22069. *Ulaula palili.*

**22061 to 22075—Continued.**

22066 to 22075—Continued.

22070. *Pikokea*.22073. *Ulauda uahi apele*.22071. *Maui melemele* or  
*Maui ulu*.22074. *Ahakca*.22072. *Wehewa*.22075. *Papa pueo*.**22076. TOONA CILIATA Roem.**

From Ventiniglia, Italy. Presented by Mr. Alwin Berger, La Mortola.  
Received February 11, 1908.

"A large, nearly evergreen tree of rapid growth, similar in habit to *Ailanthus glandulosa*. A good tree for avenues in California, etc." (*Berger*.)

**22077 to 22079. PISUM ARVENSE L.****Field pea.**

Grown at Pullman, Wash., season of 1907.

22077.

(C. V. P. No. 0396.) Received as *Pisum thebaicum* from Madrid Botanic Gardens.

22078.

(C. V. P. No. 0451.) Received as *Pisum abyssinicum* from Royal Botanic Gardens, Dublin, Ireland.

22079. *Peluschka*.

(C. V. P. No. 0456.) From Germany.

**22081. CHRYSANTHEMUM sp.**

From Yokohama, Japan. Purchased from the Yokohama Nursery Company. Received March 3, 1908.

"Seed specially gathered by Tanehan, the famous chrysanthemum show gardener at Dangozaka, Tokyo. The seed is sown about the spring equinoxes (Mar. 19) here. About 10 per cent is said to germinate." (*S. Iida*.)

**22082. MACADAMIA TERNIFOLIA F. Muell.**

From Sydney, New South Wales, Australia. Presented by Mr. J. H. Maiden, director of the Botanic Gardens. Received at the Plant Introduction Garden, Chico, Cal., April 19, 1907.

(P. I. G. No. 5336. For description see S. P. I. No. 18382.)

**22083 to 22297. NICOTIANA spp.****Tobacco.**

From Portici, Italy. Presented by Dr. O. Comes, Royal School of Agriculture. Received February, 1908.

22083 to 22100. <sup>a</sup> *NICOTIANA RUSTICA* L.22083. Var. *TEXANA SUBCORDATA*.22084. Var. *BRASILIA CHLORANTHA*.22085. Var. *BRASILIA OBLONGIFOLIA* (Hungary).22086. Var. *HUMILIS ROTUNDIFOLIA*.22087. Var. *ROTUNDIFOLIA*.22088. Var. *JAMAICENSIS ROTUNDIFOLIA*.

<sup>a</sup> The nomenclature is that of Professor Comes as given in his pamphlet entitled *Prospetto delle razze di tabacchi*, which is an extract from the volume *La R. Scuola Superiore di Agricoltura in Portici nel passato e nel presente*. This name could not be found in the above-mentioned publication and it was taken from the label on the seed.

## 22083 to 22297—Continued.

## 22083 to 22100—Continued.

22089. Var. BRASILIA ROTUNDIFOLIA.

22090. Var. SCABRA OVATIFOLIA.

22091. Var. HUMILIS OVATIFOLIA.

22092. Var. BRASILIA OBLONGIFOLIA.

*Brazile selvaggis.*

22093. Var. JAMAICENSIS OVATIFOLIA.

22094. Var. OBLONGIFOLIA.

22095. Var. ASIATICA ROTUNDIFOLIA.

22096. Var. ASIATICA OVATIFOLIA.

22097. Var. TEXANA OVATIFOLIA (Calcutta).

22098. Var. TEXANA OVATIFOLIA SENEGALENSIS.

22099. Var. HUMILIS OBLONGIFOLIA.

22100. Var. BRASILIA OBLONGIFOLIA.

22101. NICOTIANA ALATA Link &amp; Otto.

22102. NICOTIANA BIGELOVII ANGUSTIFOLIA.

22103. NICOTIANA GLUTINOSA L.

22104. NICOTIANA NOCTIFLORA ALBIFLORA.

22105. NICOTIANA QUADRIVALVIS Pursh.

22106. NICOTIANA SILVESTRIS Speg. &amp; Comes.

22107 to 22297. NICOTIANA TABACUM L.

22107. Var. CALYCIFLORA.

22108. Var. FRUTICOSA BRASILENSIS MACROPHYLLA.

*Nepal.*22109. <sup>a</sup> Var. FRUTICOSA ANGUSTIFOLIA.

22110. Var. FRUTICOSA BRASILENSIS HAVANENSIS.

*Carabobo.*

22111. Var. FRUTICOSA BRASILENSIS HAVANENSIS MACROPHYLLA.

*Persician.*

22112. Var. FRUTICOSA BRASILENSIS HAVANENSIS MACROPHYLLA.

*Pravista.*

22113. Var. FRUTICOSA BRASILENSIS LANCIFOLIA HAVANENSIS MACROPHYLLA.

*Karchiak.*

22114. Var. FRUTICOSA BRASILENSIS LANCIFOLIA HAVANENSIS MACROPHYLLA.

*Adakuvilatta.*

22115. Var. FRUTICOSA BRASILENSIS LANCIFOLIA.

*China.*

22116 to 22123. Var. LANCIFOLIA BRASILENSIS HAVANENSIS.

22116. *Toole.*

<sup>a</sup> The nomenclature is that of Professor Comes as given in his pamphlet entitled *Prospetto delle razze di tabacchi*, which is an extract from the volume *La R. Scuola Superiore di Agricoltura in Portici nel passato e nel presente*. This name could not be found in the above-mentioned publication and it was taken from the label on the seed.

## 22083 to 22297—Continued.

## 22107 to 22297—Continued.

## 22116 to 22123—Continued.

- 22117. *White Burley.*
- 22118. *Kuchivilatti.*
- 22119. *Kentucky.*
- 22120. *Cattaro.*
- 22121. *Brasile beneventano.*
- 22122. <sup>a</sup> *Little Orinoco.*
- 22123. <sup>a</sup> *Sweet Orinoco.*

## 22124 to 22129. VAR. BRASILENSIS HAVANENSIS.

- 22124. <sup>a</sup> *Arumakappal.*
- 22125. <sup>a</sup> *Habana.*
- 22126. *Bahia.*
- 22127. <sup>a</sup> *Havana (Plata).*
- 22128. *San Paolo (Brazil).*
- 22129. *Isere.*

## 22130 to 22150. VAR. BRASILENSIS HAVANENSIS MACROPHYLLA.

- 22130. *Maryland.*
- 22131. <sup>a</sup> *Avanetto riccia.*
- 22132. <sup>a</sup> *Avanetto.*
- 22133. <sup>a</sup> *Czetnek (Muscatell).*
- 22134. *Goundi.*
- 22135. <sup>a</sup> *Persian.*
- 22136. <sup>a</sup> *Hungary.*
- 22137. *Beni-Sehafom.*
- 22138. *Granville.*
- 22139. *Brazilian.*
- 22140. <sup>a</sup> *Campetana (Carpanè).*
- 22141. *Conception.*
- 22142. *Florida.*
- 22143. *Uganda.*
- 22144. *Bona cabot.*
- 22145. *Adrianopolis.*
- 22146. <sup>a</sup> *Lamia.*
- 22147. *Capo Bona speranza.*
- 22148. *Chebli.*
- 22149. *Szegedin.*
- 22150. <sup>a</sup> *Avanone.*

## 22151. VAR. BRASILENSIS FRUTICOSA HAVANENSIS MACROPHYLLA.

*Latakia.*

## 22152. VAR. BRASILENSIS HAVANENSIS VIRGINICA.

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## 22083 to 22297—Continued.

## 22107 to 22297—Continued.

22153 to 22158. Var. VIRGINICA HAVANENSIS BRASILENSIS.

22153. *Hester*.22154. <sup>a</sup> *Virginia Bright*.22155. *Lacks*.22156. *Big Orinoco*.22157. *Prior*.22158. *White Orinoco*.

22159. Var. VIRGINICA BRASILENSIS HAVANENSIS LANCIFOLIA.

*Famous*.

22160. Var. VIRGINICA BRASILENSIS HAVANENSIS MACROPHYLLA.

*Hyeo*.

22161 to 22166. Var. HAVANENSIS MACROPHYLLA.

22161. *Havana*.22162. *Kadoc* (Java).22163. *Bezocki* (Java).22164. *Loemadjang*.22165. *Pekalongan* (Java).22166. *Honduras*.22167. <sup>a</sup> Var. HAVANENSIS ANGUSTIFOLIA BRASILENSIS MACROPHYLLA.*Shiraz* (Persia).

22168 to 22173. Var. MACROPHYLLA HAVANENSIS.

22168. *Kawala*.22169. *Curco aromatico*.22170. *Ayasoluk*.22171. *Xanthi Yaka*.22172. *Varinas*.22173. *Venezuelan*.

22174. Var. MACROPHYLLA HAVANENSIS BRASILENSIS.

*Almyros*.

22175. Var. MACROPHYLLA HAVANENSIS BRASILENSIS.

*Karditza*.

22176. Var. MACROPHYLLA PURPUREA.

22177. *Saloniki*.22178. *Neder Betuwe*.22179. *Mirodatos*.22180. *Doniaku Chodiaku*.22181. *Portorico*.22182. *Schauffeltabak*.22183. <sup>a</sup> *Tenedie taka*.22184. <sup>a</sup> *Secco grande cicatrice*.22185. *Chilena grande d'Ità* (Paraguay).22186. *Doxato* (Drama).

<sup>a</sup> The nomenclature is that of Professor Comes as given in his pamphlet entitled *Prospetto delle razze di tabacchi*, which is an extract from the volume *La R. Scuola Superiore di Agricoltura in Portici nel passato e nel presente*. This name could not be found in the above-mentioned publication and it was taken from the label on the seed.

## 22083 to 22297—Continued.

## 22107 to 22297—Continued.

22187. <i>Hercegovina Trebinje.</i>	22221. <i>Arby turkish.</i>
22188. <i>He-et-Vilaine.</i>	22222. <i>Valikappal.</i>
22189. <i>Pas de Calais.</i>	22223. <i>Katarumona.</i>
22190. <sup>a</sup> <i>Friedrick.</i>	22224. <i>Friedrichsthaler.</i>
22191. <sup>a</sup> <i>Paraguay.</i>	22225. <i>Hercegovina Ljubuski.</i>
22192. <sup>a</sup> <i>Sumatra.</i>	22226. <i>Appelterre.</i>
22193. <i>Remedios.</i>	22227. <i>Grammont.</i>
22194. <i>Partidos.</i>	22228. <i>Tuckahoe.</i>
22195. <sup>a</sup> <i>Over Betuwe.</i>	22229. <i>Dragon.</i>
22196. <i>Verpelet.</i>	22230. <i>Haute Saone.</i>
22197. <i>Neder Veluwe.</i>	22231. <i>Hercegovina Stolach.</i>
22198. <i>Spitzblättrige.</i>	22232. <sup>a</sup> <i>Manilla groena.</i>
22199. <i>Spaza.</i>	22233. <i>Pumphala.</i>
22200. <i>Sofades.</i>	22234. <i>Brandley.</i>
22201. <i>Chilena piccola d'Ità (Paraguay).</i>	22235. <i>Granville Yellow.</i>
22202. <i>Sumatra Deli (Java).</i>	22236. <i>Comstock.</i>
22203. <i>Cannella Villarica (Paraguay).</i>	22237. <i>Choice Havana.</i>
22204. <i>Baffra.</i>	22238. <i>Tabac du Lot.</i>
22205. <i>Salento.</i>	22239. <i>Tabac du Nord.</i>
22206. <i>Ezeloor.</i>	22240. <i>Big Orinoco.</i>
22207. <i>Argos.</i>	22241. <i>Cuban Seed Leaf.</i>
22208. <i>Maas en Vaal.</i>	22242. <i>Valam.</i>
22209. <i>Sardegna rigadio.</i>	22243. <i>Moro di Cori.</i>
22210. <i>Tennessee Red.</i>	22244. <i>Evans.</i>
22211. <i>Singapur.</i>	22245. <i>Gooch.</i>
22212. <i>Ecuador.</i>	22246. <i>Bonanza.</i>
22213. <sup>a</sup> <i>Sarg. di Fersala.</i>	22247. <i>Northeimer.</i>
22214. <i>Cannella d'Ità.</i>	22248. <i>Gold Finder.</i>
22215. <i>Samsun.</i>	22249. <i>Safran.</i>
22216. <i>Samsun.</i>	22250. <i>Blue Prior.</i>
22217. <sup>a</sup> <i>Manilla gele.</i>	22251. <i>Pumpelly.</i>
22218. <sup>a</sup> <i>Over Veluwe.</i>	22252. <i>Tilly.</i>
22219. <i>Buhlerthaler.</i>	22253. <i>Missouri Seed Leaf.</i>
22220. <i>Yedarit.</i>	22254. <i>Connecticut Seed Leaf.</i>
	22255. <i>Rhodus.</i>
	22256. <i>General Grant.</i>

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## 22083 to 22297—Continued.

## 22107 to 22297—Continued.

22257. <i>One Sucker.</i>	22277. <i>Monnaikappal.</i>
22258. <i>Premium.</i>	22278. <i>Vuelta Abajo.</i>
22259. <i>Kedirie (Java).</i>	22279. <i>Hoonan.</i>
22260. <i>Deli Sumatra</i> (S. Paolo, Brazil).	22280. <i>Pichai di Villa-Rica</i> (Paraguay).
22261. <i>Bullion.</i>	22281. <i>Florida Seed Leaf.</i>
22262. <i>Missouri.</i>	22282. <i>Deli.</i>
22263. <i>Cuba.</i>	22283. <i>Flanagan.</i>
22264. <i>Doniak.</i>	22284. <i>Oak Hill Yellow.</i>
22265. <i>Szulok.</i>	22285. <i>Conqueror.</i>
22266. <i>Pennsylvania</i> <i>Seed Leaf.</i>	22286. <i>Best Prior.</i>
22267. <i>Sterling.</i>	22287. <i>Havana (Cuba).</i>
22268. <i>Havana Seed Leaf.</i>	22288. <i>Oburg.</i>
22269. <i>Landreth.</i>	22289. <i>Clardy.</i>
22270. <i>Foglia grande di Villa-Rica</i> (Paraguay).	22290. <i>Big Havana.</i>
22271. <i>Virginia Dienze.</i>	22291. <i>Yellow Monmouth.</i>
22272. <i>Elsasser.</i>	22292. <i>Xanthi Kawala.</i>
22273. <i>Nepal.</i>	22293. <i>Secco Sardegna.</i>
22274. <i><sup>a</sup> Monikappal.</i>	22294. <i>Karnukappal.</i>
22275. <i>China (China).</i>	22295. <i>Climax.</i>
22276. <i><sup>a</sup> Secco nodo corto.</i>	22296. <i>Tabac del Lede.</i>
	22297. <i>Lot-et-Garonne.</i>

## 22298. CANAVALI sp.

From Jaal, Luzon, P. I. Presented by Dr. H. M. Smith, Deputy Commissioner of Fisheries, Department of Commerce and Labor, Washington, D. C. Received March 3, 1908.

"A variety of bean which grows in hot, dry, sandy soil in various parts of Luzon, the vines attaining a length of 20 feet and having an abundance of large, succulent leaves." (Smith.)

## 22299 to 22301. ANDROPOGON SORGHUM (L.) Brot.

From Monmouth, Ill. Presented by Mr. Samuel H. Weed, through Mr. C. V. Piper. Received February, 1908.

22299. Dark red hulled.

22300. Red hulled.

22301. Yellow hulled.

"A sweet or saccharine broom corn or broom sugar cane produced by hybridization and selection for seven years." (Weed.)

<sup>a</sup> The nomenclature is that of Professor Comes as given in his pamphlet entitled *Prospetto delle razze di tabacchi*, which is an extract from the volume *La R. Scuola Superiore di Agricoltura in Portici nel passato e nel presente*. This name could not be found in the above-mentioned publication and it was taken from the label on the seed.

**22302. ORYZA SATIVA L.****Rice.**

From Venice, Italy. Presented by Consorti Sullam. Received March 11, 1908.

"Seeds of Spanish rice." (*Sullam.*)

**22303 to 22305. HORDEUM spp.****Barley.**

From Svalöf, Sweden. Purchased from the Allmänna Svenska Utsädesaktiebolaget. Received March 12, 1908.

**22303. HORDEUM DISTICHON ERECTUM** Schubl.

*Primus.*

**22304. HORDEUM DISTICHON NUTANS** Schubl.

*Prinsess.*

**22305. HORDEUM DISTICHON ERECTUM** Schubl.

*Svanhals.*

**22306. AVENA SATIVA L.****Oat.**

From Svalöf, Sweden. Presented by the Allmänna Svenska Utsädesaktiebolaget. Received March 12, 1908.

*Victory.* "This is the variety which of all our new races has given the highest yield." (*Allmänna Svenska Utsädesaktiebolaget.*)

**22308 to 22312.**

From Shanghai, Kiangsu, China. Presented by Rev. J. M. W. Farnham, Chinese Tract Society. Received March 11, 1908.

**22308. ZEA MAYS L.**

**Corn.**

"A peculiar kind of corn. There are several colors but they are said to be all the same variety. The corn is much more glutinous than other varieties so far as I know and may be found to be of some use, perhaps as porridge." (*Farnham.*)

**22309. ORYZA SATIVA L.**

**Rice.**

"Seeds of a glutinous rice which we use for breakfast porridge and the like. I am told they sow it two weeks earlier than other rice, which would necessitate planting it about March 8. The Chinese hang this seed (paddy) in a bag in water—say in a tub—exposed to the sun and air till it sprouts, and then sow it thick in the mud of a small pond, the mud having been fertilized with ashes and carefully prepared before the water is turned on. Here, a little more than covered with water, it is allowed to grow until from 4 to 6 inches tall. It is then taken up in small clusters and set out in the rice fields, the mud having been prepared and covered with water the same way. I suppose the Americans have as good or better methods." (*Farnham.*)

**22310. PHASEOLUS ANGULARIS** (Willd.) W. F. Wight.

**Adzuki bean.**

Red.

**22311. GLYCINE HISPIDA** (Moench) Maxim.

**Soy bean.**

Black. "Similar to *Nuttall* but larger." (*Neilsen.*)

**22312. GLYCINE HISPIDA** (Moench) Maxim.

**Soy bean.**

Yellow.

**22313 to 22315. ZEA MAYS L.****Corn.**

From Buitenzorg, Java. Presented by Dr. M. Treub, director of the Department of Agriculture. Received February 11, 1908.

**22313. "Madaera."**

**22314. "Menado."**

**22315. "Favaansch."**

**22316. OPERCULINA TUBEROSA (L.) Meissn.**

From Miami, Fla. Received through Mr. Ernst A. Bessey, pathologist in charge of Subtropical Laboratory and Garden, March 14, 1908.

"Grown from S. P. I. No. 17835. This is a large ornamental vine belonging to the morning glory family. It is a vigorous grower, producing plants sometimes 30 to 50 feet long. The stems are woody and often in two years reach a thickness of one's arm. The flowers are large, yellow in color, and borne with great profuseness, making the plant very ornamental at the flowering period. It is grown to a limited extent around Miami and, if not already introduced there, may find favor in parts of California and other places where frost does not occur. This seed was obtained from a vine at the Subtropical Laboratory and Garden." (Bessey.)

**22317 to 22322. GLYCINE HISPIDA (Moench) Maxim.**

**Soy bean.**

From Erfurt, Germany. Purchased from Haage & Schmidt. Received March 16, 1908.

22317. Probably *Butterball*.

22318. "*Giant Yellow*." Probably *Amherst*.

22319. Brown.

22320. *Samarow*. Like No. 17260.

22321. Probably *Cloud*.

22322. "*Early Black* from Podolia." Probably *Buckshot*.

**22323 and 22324.**

From Fort Sandeman, Baluchistan. Received from Lieut. Col. G. C. French, I. A., political agent in Zhob, through Prof. E. P. Stebbing, imperial forest zoologist to the Government of India, Calcutta, India, March 11, 1908.

22323. *PISTACIA KHINJUK* Stocks.

**Pistache.**

22324. *OLEA FERRUGINEA* Royle.

**Olive.**

"Tree 30 to 50 feet high. The wood is hard and is highly prized for turning and for agricultural implements. It takes a high polish. An oil is extracted from the fruit." (Brandis, *For. Fl. Ind.*, p. 307.)

**22325 to 22332. ANDROPOGON SORGHUM (L.) Brot.**

**Durra.**

From Khartoum, Sudan, Africa. Presented by Mr. R. Hewison, agricultural inspector, agricultural and lands department, Sudan government, through Mr. C. V. Piper. Received March 16, 1908.

"Representative durras, or at least not kafirs; some may prove not to belong to the durra group as we understand it." (C. R. Ball.)

Seed of the following, with the localities in which they are commonly found. Varietal description, by Mr. C. R. Ball.

22325. *Kassabi*. Singa and Wad Medani, Blue Nile.

Probably identical with the "*durra beda*" of Egypt.

22326. *Hegari*. Singa and Wad Medani, Blue Nile.

22327. *Mugud*. Wad el Fahl, Blue Nile.

22328. *Feterita*. All over the durra area in the Sudan.

Seed is like No. 19517.

22329. *Fiki Mistahi*. Singa, Blue Nile.

22330. *Wad Akar*. Karkog, Blue Nile.

22331. *Nab el Tor*. Blue Nile.

22332. *Homeizi Asfar*. Singa, Blue Nile.

Seed is like Agros. No. 1456, *Hamaisee*, from the Sudan..

**22333 to 22337. GLYCINE HISPIDA (Moench) Maxim. Soy bean.**

Grown at Arlington Experimental Farm, Virginia, season of 1907. Received March 19, 1908.

**22333. Baird.**

"This variety was mixed with *Brownie* when received from Pingyang, Korea. This mixture was given S. P. I. No. 6414. The two varieties were grown together under these numbers, 9417, 17256, and Agros. No. 1542, respectively. The two varieties were separated in the 1907 seed from Arlington Farm, and *Baird* given the above new number, *Brownie* remaining as No. 17256." (*Nielsen.*)

**22334. Flat black.**

"Received from Mr. H. B. Derr, Agricultural Experiment Station, Champaign, Ill. The original source of the seed is not known. It is quite similar in growth to *Nuttall*, but the seed is not the same shape, being flatter and larger." (*Nielsen.*)

**22335. Yellow.**

"Received from Mr. H. B. Derr, Agricultural Experiment Station, Champaign, Ill., where it was grown as *Illinois Medium Yellow*. It is very similar to *Hollybrook*, and perhaps is the same, but appears different on account of having been grown farther north." (*Nielsen.*)

**22336. Guelph.**

"Received from Mr. H. B. Derr, Agricultural Experiment Station, Champaign, Ill. Original seed was procured from the Agricultural Experiment Station, Wooster, Ohio." (*Nielsen.*)

**22337. Guelph.**

"Received from Mr. H. B. Derr, Agricultural Experiment Station, Champaign, Ill. Original seed was procured from the Agricultural Experiment Station, Fayetteville, Ark." (*Nielsen.*)

**22338. CAPSICUM ANNUUM L.****Pepper.**

From Houston, Tex. Presented by Mr. J. Milton Howe, 204 Commercial National Bank Building. Received March 12, 1908.

"*Jalapa*. This pepper has a medium-sized, heavy-fleshed pod and is principally used for pickling. In its pickled condition it is very much prized by both Mexicans and visiting Americans. At present, I am importing them direct (from Mexico) for my own use and the use of my immediate friends. They take so well that I feel confident that there is an opening for their introduction into this country.

"The pickling process is apparently a brine followed by packing in vinegar." (*Howe.*)

**22341. PUERARIA THUNBERGIANA (Sieb. & Zucc.) Benth. Kudzu.**

From New York, N. Y. Purchased from J. M. Thorburn & Co. Received March 20, 1908.

"Kudzu is a large-leaved, very rapid growing, woody, leguminous vine, native to Japan. It succeeds well in every part of the United States where it has been tried, and where the summers are warm grows with great luxuriance. It is a most excellent vine for arbors or to produce a tropical effect by growing over low trees. In Japan a valuable fiber is made out of the stems, and from the large roots a fine quality of starch is extracted.

"Kudzu also furnishes abundant and nutritious forage, and should be largely experimented with for this purpose. In Japan it is grown on rough, rocky land or steep hillsides that can not be cultivated. In this country it should also be tested on lands too poor to be cultivated with profit. Kudzu being a legume will add nitrogen to the soil in addition to producing forage, and if at any future time it should be desirable to clear the land the starch crop of the roots will probably yield more than the cost. Kudzu may be used



**22341—Continued.**

either for pasturage or as green feed, though hay can be made of it. It will probably be best used as pasture and it is desirable to have two such pastures to be browsed alternately.

"*Directions for planting:* The seed should be started in a seed bed and the plants transplanted after they are well rooted. They should be planted 10 to 20 feet apart. The first season they will produce stems 6 to 12 feet long and by the end of the second season should entirely cover the ground." (*Piper.*)

(See also S. P. I. No. 9227.)

**22342 to 22348.**

From Peking, Chihli, China. Received through Mr. Frank N. Meyer, agricultural explorer, at the Plant Introduction Garden, Chico, Cal., February 4, 1908.

A collection of seeds, as follows:

**22342. FAGARA AILANTHOIDES (S. & Z.) Engl.**

From Boshan, Shantung, China. "(No. 778a, Sept. 19, 1907.) A few seeds of this ornamental tree, which is worth planting more extensively. Very handsome when in flower or when loaded with its scarlet capsules." (*Meyer.*)

**22343. AMYGDALUS PERSICA L.**

Peach.

From Ningpo, Chehkiang, China. "(No. 827a, July 3, 1907.) Bought at Ningpo for trial to see if new types appear among them." (*Meyer.*)

**22344. AMYGDALUS ARMENIACA (L.) Dum.**

Apricot.

From Ningpo, Chehkiang, China. "(No. 828a, July 3, 1907.) A very large apricot, bought in Ningpo, said to come from Shantung." (*Meyer.*)

**22345. PRUNUS sp.**

Cherry.

From Peking, Chihli, China. "(No. 829a, May 20, 1907.) A very small fruited cherry, obtainable for a couple of weeks on the market in Peking. Edible, but almost too small for us whites; may be an ornamental shrub. Chinese name *Yue ye mei tao*, this name, however, may not be right." (*Meyer.*)

**22346. RHUS sp.**

From mountains near Peking, Chihli, China. "(No. 830a, May 27, 1907.) A shrub, sometimes growing into a small tree; grows among the rocks and on dry places. Fit to cover dry mountain sides in the southwestern regions of the United States so as to prevent the washing down of the soil." (*Meyer.*)

**22347. REHMANNIA GLUTINOSA (Gaertn.) Libosch.**

From Mingkien, Shansi, China. "(No. 831a, May 15, 1907.) A scrophulariaceous plant growing on old walls and on dry banks. Has rather large buff-purplish flowers. May be improved upon and become a garden plant for the arid regions of the United States." (*Meyer.*)

**22348. CENTAUREA sp.**

From mountains near Peking, Chihli, China. "(No. 832a, May 27, 1907.) A very large flowered Centaurea of blue-purplish color. Perhaps fit as an ornamental plant in dry regions." (*Meyer.*)

**22349. PHRAGMITES VULGARIS LONGIVALVIS (Steud.) W. F. Wight.  
(PHRAGMITES LONGIVALVIS Steud.)**

From Yokohama, Japan. Purchased from the Yokohama Nursery Company. Received March 19, 1908.

"*Phragmites vulgaris longivalvis* (Steud.) differs from the common form, *Phragmites communis* Trin., *P. vulgaris* Lam., *Arundo phragmites* L., *Phragmites phragmites* Karst., in having the lower glume elongated, the panicle thus

## 22349—Continued.

appearing to have broader spikelets and resembling *Arundo donax*. From the herbarium specimens this form appears to be more robust than *Phragmites vulgaris* as it occurs in Japan, the stem being as thick as one's little finger. Franchet and Savatier place this as a variety of *P. vulgaris*, with the remark that it is scarcely worthy of this recognition. The species is cosmopolitan and somewhat variable, and I think this form is scarcely more than a variety. It is to be noted, however, that the Japanese name for this is *Yoshu-take*, to distinguish it from *Yoshi*, the other form of *P. vulgaris*." (A. S. Hitchcock.)

## 22350 to 22378.

From Peking, Chihli, China. Received through Mr. Frank N. Meyer, agricultural explorer, March 20, 1908.

The following cuttings and seeds:

## 22350. DIOSPYROS KAKI L. f.

Persimmon.

From Shifengtse Temple, west of Peking, Chihli, China. "(No. 208, Jan. 17, 1908.) A large, flat, seedless persimmon. Apparently a variety of the one sent under Nos. 104 and 105 (S. P. I. Nos. 16912 and 16921). As the trees were growing in a very well sheltered valley this large-fruited quality may be due to the location. Chinese name *Ta shi tse*." (Meyer.)

## 22351. AMYGDALUS PERSICA L.

Peach.

From Shifengtse Temple, west of Peking, Chihli, China. "(No. 211, Jan. 17, 1908.) Said to be a large peach of reddish color. Chinese name *Ta tau*." (Meyer.)

## 22352. AMYGDALUS PERSICA L.

Peach.

From Shifengtse Temple, west of Peking, Chihli, China. "(No. 212, Jan. 17, 1908.) Said to be medium sized, very flat, and of reddish color. Chinese name *Pien tau*." (Meyer.)

## 22353. AESCULUS CHINENSIS Bunge.

From Tanchetse Temple, west of Peking, Chihli, China. "(No. 213, Jan. 19, 1908.) The Chinese horse-chestnut, a beautiful new shade tree, quite rare here in China. Scions formerly sent under No. 81 (S. P. I. No. 17736). As the tree is more closely related to the Pavia than to the Aesculus it will probably thrive better when grafted upon stock of the first group. Chinese name *So to shu*." (Meyer.)

## 22354. AESCULUS CHINENSIS Bunge.

From Tanchetse Temple, west of Peking, Chihli, China. "(No. 216, Jan. 21, 1908.) The same as No. 213 (S. P. I. No. 22353) but from a different location. The same remarks apply to it. The largest specimens occur in the Tanchetse Temple, southwest of Peking, where the trunk of the biggest one measures  $12\frac{1}{2}$  feet in circumference." (Meyer.)

## 22355. POPULUS ALBA TOMENTOSA (Carr.) Wesmael.

From Hsiendjetse Temple, west of Peking, Chihli, China. "(No. 217, Jan. 21, 1908.) The large-leaved Chinese poplar as sent before under several numbers. These trees grow remarkably straight and tall. The Chinese prune the lower branches off, until there is often a clear trunk of 40 feet before the first branch is reached. May prove to be a very good street tree. Chinese name *Pai yang shu*." (Meyer.)

## 22356. SYRINGA sp.

From Changnantse Temple, west of Peking, Chihli, China. "(No. 218, Jan. 21, 1908.) Blue lilac. A very floriferous variety of lilac, with small leaves; very drought resisting. Chinese name *Lang ting hsien shu*." (Meyer.)

## 22350 to 22378—Continued.

## 22357. SYRINGA sp.

From Changnantse Temple, west of Peking, Chihli, China. "(No. 219, Jan. 21, 1908.) A white-flowering variety of lilac, said to be very fine. Also, like the preceding (S. P. I. No. 22356), very drought resistant. Chinese name *Pai ting hsien chu*." (Meyer.)

## 22358. AMYGDALUS PERSICA L.

Peach.

From Poliping, west of Peking, Chihli, China. "(No. 221, Jan. 22, 1908.) A rather large peach of whitish color and said to be very fine; realizes high prices in Peking and is far from being easily obtained. The trees grow slowly and do not attain large dimensions, 7 to 8 feet seems to be the maximum height; they seem to suffer much from scales. Chinese name *Mi tau*, meaning honey peach. They grow on terraces in the mountains at 1,000 feet and more altitude." (Meyer.)

## 22359. AMYGDALUS PERSICA L.

Peach.

From Poliping, west of Peking, Chihli, China. "(No. 222, Jan. 22, 1908.) A peach said to be very large, of red meat, and not so sweet as the preceding number (S. P. I. No. 22358), growing in the same localities and apparently very little attacked by scales. A thrifty grower, though not becoming tall. Chinese name *Hong tau*, meaning red peach." (Meyer.)

## 22360. AMYGDALUS PERSICA L.

Peach.

From Poliping, west of Peking, Chihli, China. "(No. 223, Jan. 23, 1908.) A peach said to be almost like No. 221 (S. P. I. No. 22358), but of more thrifty growth and bearing much longer leaves, called as such *Ta ye tau*, meaning long-leaved peach. Growing under the same conditions as No. 221 (S. P. I. No. 22358) and very little attacked by scales. The soil in these mountains is reddish decomposed granite and does not seem to be very fertile." (Meyer.)

## 22361. PRUNUS sp.

Cherry.

From Poliping, west of Peking, Chihli, China. "(No. 228, Jan. 22, 1908.) A tall-growing bush cherry, 10 to 15 feet high, bearing small cherries. Seems to be able to stand trying climatic conditions, such as drought and summer heat. Chinese name *Ying taur*." (Meyer.)

## 22362. DIOSPYROS KAKI L. f.

Persimmon.

From Poliping, west of Peking, Chihli, China. "(No. 229, Jan. 22, 1908.) A large, flat, seedless persimmon, apparently the same as No. 104 (S. P. I. No. 16912). Chinese name *Ta shi tse*." (Meyer.)

## 22363. POPULUS BALSAMIFERA SUAVEOLENS (Fisch.) Wesm.

Poplar.

From Shiling, Chihli, China. "(No. 230, Jan. 25, 1908.) A remarkable variety of the small-leaved Chinese poplar; looks like the Lombardy poplar, but makes a more pleasing impression. Loves a sandy, moisture-retaining soil. Chinese name *Tchau tien pai yang shu*, which is probably an erroneous name, as *pai yang* means the *Populus tomentosa*." (Meyer.)

## 22364. ULMUS MACROCARPA Hance. (?)

Elm.

From Shiling, Chihli, China. "(No. 231, Jan. 25, 1908.) A shrubby elm, often having irregular, corky wings along its branches. Grows on very dry and rocky mountain slopes, growing from a couple of feet up to 20 or 30 feet high. Chinese name *Shan yu shu*. Seems to be very variable in its habitus." (Meyer.)

## 22365. DIOSPYROS KAKI L. f.

Persimmon.

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 232, Jan. 30, 1908.) A large, very flat persimmon of orange-red color; grows in great orchards in the mountain valleys. These fruits are flatter in shape, and also sweeter in taste, than Nos. 104 and 105 (S. P. I. Nos. 16912 and 16921), but they seem to love a warmer, more sheltered location. They form a very large item in the providing of a livelihood for thousands of

## 22350 to 22378—Continued.

people. The total amount of money received from around Taidjatsoa village for persimmons last fall amounted to \$10,000 (Mexican). Chinese name *Ta mo pan shi tze*." (Meyer.)

22366. DIOSPYROS KAKI L. f.

Persimmon.

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 233, Jan. 30, 1908.) A small, flat, seedless persimmon of orange-red color. While the very large variety ranges from 3 to 5 inches in diameter, this one varies between 2 and 3 inches; for this reason not much planted. Chinese name *Shau mo pan shi tze*. Like the large ones they also have the incision all around." (Meyer.)

22367. DIOSPYROS KAKI L. f.

Persimmon.

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 234, Jan. 30, 1908.) A small-fruited, seedless persimmon, not quite flat, which bears, besides the circular incision, two incisions across, which vary greatly in different fruits. The tree grows to a very much larger size than the ordinary flat-fruited ones. Apparently the same as sent under No. 97 (S. P. I. No. 16910). Chinese name locally for this variety is *Lien hua shi tze*, meaning lotus flower persimmon." (Meyer.)

22368. DIOSPYROS KAKI L. f.

Persimmon.

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 235, Jan. 30, 1908.) A small-fruited, yellow persimmon with seeds. A slow grower; has whitish bark; is rare. Chinese name *Neu sien shi tze*." (Meyer.)

22369. DIOSPYROS KAKI L. f.

Persimmon.

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 236, Jan. 30, 1908.) A small-fruited, oblong, scarlet-red persimmon with seeds. Chinese name *Whoe shi tze shu*." (Meyer.)

22370. DIOSPYROS KAKI L. f.

Wild persimmon.

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 237, Jan. 30, 1908.) A yellow-fruited variety of this tree upon which, in north-eastern China, the Chinese graft all their improved varieties. The ordinary variety always has black fruits. Chinese name *Huang yang tsao*." (Meyer.)

22371. MALUS SYLVESTRIS Mill.

Apple.

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 238, Jan. 30, 1908.) A white apple. The trees grow spreading and are long lived. Probably the same as No. 227 (S. P. I. No. 22440), but there is much variation among these Chinese apples. Chinese name *Pai ping kua*." (Meyer.)

22372. MALUS SYLVESTRIS Mill.

Apple.

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 239, Jan. 30, 1908.) A medium-sized red apple of sweet taste. The trees grow very spreading and are long lived. Chinese name *Hong teng kua*." (Meyer.)

22373. AMYGDALUS PERSICA L.

Peach.

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 243, Jan. 30, 1908.) Said to be a white peach with a red tip and having juicy meat. Chinese name *Pai tau hong tchor*." (Meyer.)

22374. THUYA ORIENTALIS L.

From Peking, Chihli, China. "(No. 251, Feb. 6, 1908.) A wonderful branch variation of the ordinary *Thuya orientalis*. The Chinese call this variation *Fong Huang su*, meaning the rising phoenix tree." (Meyer.)

22375. ULMUS PARVIFOLIA Jacq.

Elm.

From Peking, Chihli, China. "(No. 252, Feb. 6, 1908.) A tall, spreading elm, with many small branches bearing small leaves and flowering in fall. In the winter the bark peels off in curiously formed pieces. I

## 22350 to 22378—Continued.

have seen only two specimens in China during all my wanderings and these two grow in the grounds of the Temple of Heaven at Peking, from where these scions are taken." (*Meyer.*)

## 22376. GLEDITSIA SINENSIS Lam.

From Lungtsuantse Temple, west of Peking, Chihli, China. "(No. 901a, Jan. 17, 1908.) A *Gleditsia* bearing heavy, fleshy pods, which are utilized by the Chinese as a substitute for soap; they slice them up and pour boiling water over them and use them to wash fine clothes and also their hair. The pods contain a very biting substance which makes one sneeze when it enters the nostrils, and when it gets in the eyes it is even quite painful; they burn well in the fire; test them for their chemical properties. The tree itself is medium sized and makes a nice, round head; well fit to be used as an ornamental tree in parks and gardens; it is a slow grower. There is great variation among the trees so far as size and shape of pods are concerned. They are apparently in a state of mutation. Chinese name *Tsau jo shu*. Seeds sent formerly from different locations under Nos. 106a and 174a (S. P. I. Nos. 17889 and 18579).

"Immerse the seeds for half a minute in boiling water to insure a uniform germination, as otherwise they may remain dormant for a year or even longer." (*Meyer.*)

## 22377. GLEDITSIA sp.

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 902a, Jan. 30, 1908.) A tall, slender-stemmed locust, bearing small pods which are of no use to the people. It seems to be a very rare tree. Chinese name *Hoo li tchoi*. Give the seeds the same treatment as the preceding number (S. P. I. No. 22376)." (*Meyer.*)

## 22378. JUGLANS MANDSHURICA Maxim.

Walnut.

From Tshitaitse Temple, west of Peking, Chihli, China. "(No. 910a, Jan. 16, 1908.) A peculiar kind of a wild walnut, growing here and there in the mountains." (*Meyer.*)

## 22379 to 22383.

From Canton, Kwangtung, China. Presented by Dr. J. M. Swan, Cooks Hospital. Received March 20, 1908.

## 22379 to 22381. GLYCINE HISPIDA (Moench) Maxim.

Soy bean.

22379. Yellow.

22381. Green mixed with yellow and a few brown.

22380. Black.

## 22382. VIGNA UNGUICULATA (L.) Walp.

Cowpea.

*Brown-Eye.*

## 22383. PHASEOLUS ANGULARIS (Willd.) W. F. Wight.

Adzuki bean.

Red.

## 22384 to 22390.

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Botanic Gardens. Received March 20, 1908.

## 22384. NEPHELIUM LAPPACEUM L.

## 22385. LANSIUM DOMESTICUM Jack.

## 22386. GARCINIA FUSCA Pierre.

## 22387. GARCINIA LOUREIRI Pierre.

## 22388. GARCINIA MANGOSTANA L.

## 22389. GARCINIA SIZYGIIFOLIA Pierre.

## 22390. GARCINIA TINCTORIA DC. (XANTHOCHYMUS TINCTORIUS DC.)



**22391. VIGNA UNGUICULATA (L.) Walp.****Cowpea.**

From Manila, P. I. Presented by Mr. W. S. Lyon, through Mr. O. W. Barrett. Received March 23, 1908.

Probably *Iron*. "Seed procured from the New Guinea-Venezuela variety. Early, prolific, and vigorous. Harvested ripe pods 48 days from planting." (*Lyon*.)

**22392. ARGYREIA NERVOSA (Burm.) Boj.**

From Manila, P. I. Presented by Mr. W. S. Lyon, through Mr. O. W. Barrett. Received March 23, 1908.

"Original seed received from Mr. O. W. Barrett, under the name *Ipomoea* sp., from Brazil.

"A perennial growing to a length of 40 to 50 or more meters. Flowers a reddish violet color." (*Lyon*.)

**22393. SESBAN GRANDIFLORA (L.) Poir.**

From Rockhampton, Queensland, Australia. Presented by Mr. J. H. Maiden, director of the Botanic Gardens, Sydney, New South Wales. Received March 16, 1908.

(For description see S. P. I. Nos. 3786 and 5209.)

**22394 to 22404. RAPHANUS SATIVUS L.****Radish.**

From Yokohama, Japan. Purchased from the Yokohama Nursery Company. Received March 16, 1908.

The following seeds with Japanese varietal names:

22394. *Kameido*.22400. *Seigoin*.22395. *Hosane*.22401. *Natsu-daikon* or *Summer radish*.22396. *O-maru*.22397. *Nerima*.22402. *Owari-Miyajiu*.22398. *Ninengo*.22403. *Kairyo-Miyajiu*.22399. *Sakurajima*.22404. *Toki-maki*.**22405. SOLANUM sp.**

From Nice, France. Presented by Dr. A. Robertson-Proschowsky, through Mr. O. W. Barrett. Received March 6, 1908.

"A very ornamental *Solanum*, a small tree covered with thousands of red fruits (possibly from Peru)." (*Proschowsky*.)

**22406 to 22410.**

From Hongkong, China. Presented by Mr. S. T. Dunn, Botanical and Forestry Department. Received March 26, 1908.

22406. *GLYCINE HISPIDA* (Moench) Maxim.**Soy bean.**

Yellow.

22407. *GLYCINE HISPIDA* (Moench) Maxim.**Soy bean.**

Black.

22408. *VIGNA UNGUICULATA* (L.) Walp.**Cowpea.***Brown-Eye*.22409. *PHASEOLUS RADIATUS* L.**Mung bean.**22410. *PHASEOLUS ANGULARIS* (Willd.) W. F. Wight.**Adzuki bean.**

Red.



**22411 to 22415. GLYCINE HISPIDA (Moench) Maxim. Soy bean.**

From Naples, Italy. Purchased from Dammann & Co. Received March 25, 1908.

22411. *Samarow.*

22412. Black. "Similar to *Cloud*." (*Nielsen*.)

22413. Brown.

22414. Yellow. "Similar to *Acme*." (*Nielsen*.)

22415. Giant yellow.

**22416 to 22418. MEDICAGO spp.**

From Berlin, Germany. Purchased from A. Metz & Co. Received March 24, 1908.

22416. MEDICAGO SATIVA L. Alfalfa.

*Piedmont.*

22417. MEDICAGO SATIVA L. Alfalfa.

*Provence.*

22418. MEDICAGO SATIVA VARIA (Mart.) Urb. Alfalfa.

Sand lucern.

**22419. PERILLA FRUTESCENS (L.) Britton.**

From Ichang, Hupeh, China. Secured by Mr. E. H. Wilson, of the Arnold Arboretum, Jamaica Plain, Mass., in cooperation with this Department. Received March 21, 1908.

"(No. 793, Jan. 23, 1908.) Herb, 3 to 4 feet, cultivated in the mountains in the immediate neighborhood of Ichang, at altitude from 1,000 to 3,500 feet. From the seeds is expressed a sweet, culinary oil, much esteemed by the Chinese locally. The colloquial name is *Tzu ma*." (*Wilson*.)

**22420. CHAETOCLOA ITALICA (L.) Scribn. Millet.**

From Mitchell, S. Dak. Purchased from the Dakota Improved Seed Company. Received March 23, 1908.

*Kursk.* "To be used in classification and varietal tests." (*Vinall*.)

**22428. GLYCINE SOJA Sieb. & Zucc.**

Grown at Arlington Farm, Virginia, season of 1907, under C. V. P. No. 0474. Received March, 1908.

"Original seed presented by the Botanic Gardens, Tokyo, Japan. A near relative to the soy bean, but a spreading or decumbent plant, abundantly provided with large root nodules. Has considerable promise as a cover or green manure crop." (*Piper*.)

**22429. RUSCUS ACULEATUS L. Butcher's broom.**

From Vomero, Naples, Italy. Presented by Dr. C. Sprenger. Received March 28, 1908.

"An erect (hiliaceous) shrub, with minute, bractlike leaves and branches (phyllodia) simulating leathery, persistent, leaflike bodies. The fruits are red berries, one-half inch in diameter; the flowers are small." (*Bailey*.)

**22430. CHRYSOPHYLLUM MAGLISMONTANA Sond. Stem-vrugte.**

From Pretoria, Transvaal. Presented by Prof. J. Burt Davy, agrostologist and botanist, Transvaal Department of Agriculture. Received March 27, 1908.

"A handsome evergreen shrub or small tree. Requires a warm, temperate climate, but will stand light frost." (*Davy*.)

**22431. KYLLINGA BREVIFOLIA Rottb. Sedge.**

Grown in the Department greenhouse, Washington, D. C., under C. V. P. No. 0569, season 1907-8; numbered, for convenience in distributing, March 28, 1908.

"Original sod received from Mr. A. G. Sullivan, Birmingham, Ala., November 5, 1907. It is a fine-leaved sedge of a very rich green color and a decided stoloniferous habit. It is claimed to be quite aggressive in the lawn of Mr. Sullivan and to take kindly to repeated mowings. To be developed as a lawn plant for the South." (*Vinall*.)

**22432 to 22459.**

From Peking, Chihli, China. Received through Mr. Frank N. Meyer, agricultural explorer, at the Plant Introduction Garden, Chico, Cal., March 16, 1908.

A collection of cuttings and seeds, as follows:

**22432. PYRUS CHINENSIS Lindl. Pear.**

From Shifengtse Temple, west of Peking, Chihli, China. "(No. 209, Jan. 17, 1908.) A large variety of the so-called Peking pear; round like an apple, of very pale yellow color, and of melting flesh. Can be introduced into the Western World as it is. Formerly sent under No. 109 (S. P. I. No. 16916). Chinese name *Ta pai li*." (*Meyer*.)

**22433. PRUNUS sp. Plum.**

From Shifengtse Temple, west of Peking, Chihli, China. "(No. 210, Jan. 17, 1908.) A large, red plum, said to be early and very good. Chinese name *Ta hong li tse*." (*Meyer*.)

**22434. MALUS sp. Crab apple.**

From Hsiendjetse Temple, west of Peking, Chihli, China. "(No. 214, Jan. 21, 1908.) A fine flowering crab apple, of shrubby form, bearing masses of rose-colored flowers followed by edible scarlet crab apples. Chinese name *Hai tang kua*." (*Meyer*.)

**22435. MALUS sp. Crab apple.**

From Hsiendjetse Temple, west of Peking, Chihli, China. "(No. 215, Jan. 21, 1908.) A variety of the preceding, No. 214 (S. P. I. No. 22434); said to be larger, with flowers of white color, followed by very small fruits." (*Meyer*.)

**22436. (Undetermined.)**

From Changnantse Temple, west of Peking, Chihli, China. "(No. 220, Jan. 21, 1908.) Tree cuttings, probably a *Rhus*, but as no leaves could be found it may prove to be something different; the wood is very hard and brittle. The tree is said to be the only specimen around Peking, as a priest assured us." (*Meyer*.)

**22437. AMYGDALUS ARMENIACA (L.) Dum. Apricot.**

From Poliping, west of Peking, Chihli, China. "(No. 224, Jan. 22, 1908.) A large apricot, said to be white with a red tip. Chinese name *Hai tschai ta pai sing*." (*Meyer*.)

**22438. PYRUS CHINENSIS Lindl. Pear.**

From Poliping, west of Peking, Chihli, China. "(No. 225, Jan. 22, 1908.) A very good pear, nonmelting, but very juicy. The Chinese consider this one of their best pears. A good keeper. Color light yellow, of

## 22432 to 22459—Continued.

regular pear shape with a long peduncle. There are several distinct varieties of this pear and yet all are called *Yar li*. One form sent in 1905 under No. 119 (S. P. I. No. 16924)." (Meyer.)

22439. *PYRUS CHINENSIS* Lindl.

Pear.

From Poliping, west of Peking, Chihli, China. "(No. 226, Jan. 22, 1908.) A hard-meated round pear of yellow color with a red cheek, looks like an apple; an extraordinary keeper, even when treated roughly. May be of use as a cooking pear. Chinese name *Hong hsau li*." (Meyer.)

22440. *MALUS SYLVESTRIS* Mill.

Apple.

From Poliping, west of Peking, Chihli, China. "(No. 227, Jan. 22, 1908.) A small white apple, called *Pai ping kus*, used in sweetmeats and preserves." (Meyer.)

22441. *PRUNUS* sp.

Plum.

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 240, Jan. 30, 1908.) A large yellow plum, very bushy but growing very vigorously. Said to be good. Chinese name *Huang li tse*." (Meyer.)

22442. *PYRUS CHINENSIS* Lindl.

Pear.

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 241, Jan. 30, 1908.) A large variety of the so-called *Yar li*. Sent also under Nos. 119 and 225 (S. P. I. Nos. 16924 and 22438). Chinese name of this variety *Ta yar li*." (Meyer.)

22443. *PYRUS CHINENSIS* Lindl.

Pear.

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 242, Jan. 30, 1908.) A round apple-shaped pear of red color, hard meated but sweet; a good shipper; fit perhaps as a cooking pear. Chinese name *Hong bo li*." (Meyer.)

22444. *AMYGDALUS ARMENIACA* (L.) Dum.

Apricot.

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 244, Jan. 30, 1908.) An apricot which is said to be half red and half yellow. Chinese name *Hai tang hong sing*." (Meyer.)

22445. *AMYGDALUS ARMENIACA* (L.) Dum.

Apricot.

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 245, Jan. 30, 1908.) A large yellow apricot with edible sweet kernel. Chinese name *Ta huang sing*." (Meyer.)

22446. *AMYGDALUS ARMENIACA* (L.) Dum.

Apricot.

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 246, Jan. 30, 1908.) A small red apricot of sweet taste and with edible sweet kernel. Chinese name *Shau hong sing*." (Meyer.)

22447. *POPULUS BALSAMIFERA SUAVEOLENS* (Fisch.) Wesm.

Poplar.

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 247, Jan. 30, 1908.) An extraordinary slender form of *Populus suaveolens*. A beautiful tree when planted in a row along a water course with the western sky as background. Chinese name *Pau yang shu*. For other remarks see No. 230 (S. P. I. No. 22363)." (Meyer.)

22448. *MORUS ALBA* L.

Mulberry.

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 248, Jan. 30, 1908.) A wild form of the mulberry growing into medium-sized, well-formed trees. Apparently a distinct form. Chinese name *Sung shu*." (Meyer.)

22449. *ROSA* sp.

Rose.

From Pautingfu, Chihli, China. "(No. 249, Jan. 30, 1908.) Said to be a beautiful, yellow rambler rose, flowering with an abundance of flowers. Obtained from the garden of the American Presbyterian Mission in Pautingfu, who procured it from a Chinese nurseryman." (Meyer.)

## 22432 to 22459—Continued.

22450. *SALIX* sp.

Willow.

From near Pautingfu, Chihli, China. "(No. 250, Jan. 30, 1908.) The ordinary willow which grows excellently everywhere on the dry lands in North China. Needs no water supply beyond a scanty summer rainfall." (Meyer.)

22451. *MORUS ALBA* L.

Mulberry.

From Peking, Chihli, China. "(No. 253, Feb. 10, 1908.) A tall-growing mulberry, bearing entire, oblong leaves. Grows here and there in Peking in gardens and is a good shade tree." (Meyer.)

22452. *ROSA XANTHINA* Lindl.

Rose.

From Peking, Chihli, China. "(No. 254, Feb. 10, 1908.) A semidouble yellow rose of very thrifty growth. Nonfragrant, but extraordinarily floriferous. Blooms but once a year. See Nos. 67 and 68 (S. P. I. No. 17469) for other remarks." (Meyer.)

22453. *ROSA RUGOSA* Thunb.

Rose.

From Peking, Chihli, China. "(No. 255, Feb. 10, 1908.) A double so-called Japanese rose, although it is a native of North China. This variety grows only 2 to 4 feet high and bears large magenta-colored flowers of very sweet odor. The petals of these roses are very much esteemed by the Chinese for flavoring their tea, perfuming their rooms, and to use in toilet waters. They are grown in large quantities for these purposes." (Meyer.)

22454. *CELTIS* sp.

Hackberry.

From Hsiling, Chihli, China. "(No. 904a, Jan. 25, 1908.) A small-leaved *Celtis*, growing into a small-sized ornamental tree. Can stand lots of drought. The galls of this tree are, like those of the following number (S. P. I. No. 22455), eaten by the Chinese after the insect has been taken out. They are said to taste like cucumbers." (Meyer.)

22455. *CELTIS* sp.

Hackberry.

From near Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 905a, Jan. 31, 1908.) A tall *Celtis*, of use as a shade tree. Called in Chinese *Shan huang kwa shu*, which means wild cucumber tree, on account of the peculiar galls which infest this tree, which are eaten and taste like wild cucumbers, so they say." (Meyer.)

22456. *PINUS BUNGEANA* Zucc.

Pine.

From Changnantse Temple, west of Peking, Chihli, China. "(No. 906a, Jan. 21, 1908.) The most glorious of all pines. See notes to Nos. 137a and 139a (S. P. I. No. 17912). Chinese name *Pai huorr sung shu*." (Meyer.)

22457. *XANTHOCERAS SORBIFOLIA* Bunge.

From Changnantse Temple, west of Peking, Chihli, China. "(No. 907a, Jan. 23, 1908.) This beautiful flowering shrub, which sometimes grows into a small tree, is often found in the temple courts and is well worth planting. Seeds formerly sent under No. 11a (S. P. I. No. 18264). Chinese name *Mu kua hua*." (Meyer.)

22458. *CERCIS CHINENSIS* Bunge.

From Changnantse Temple, west of Peking, Chihli, China. "(No. 908a, Jan. 23, 1908.) The Chinese red-bud, a very ornamental bush when in flower; blooms before the leaves are out. Leaves large, glossy green, and more or less heart shaped. Grows to be 10 to 12 feet high and stands droughts very well. Chinese name *Tze ching*." (Meyer.)

22459. *BRASSICA OLERACEA* L.

Cabbage.

From Taidjatsoa, west of Pautingfu, Chihli, China. "(No. 909a, Jan. 30, 1908.) A very solid, oblong cabbage with the leaves overlapping

**22432 to 22459—Continued.**

each other, a rare thing with Chinese cabbage. Very much esteemed locally. Needs a rich, well-irrigated soil. Sow in June, transplant in early September. 2 feet apart in each direction, take up after the first frost and store in cool, frostproof pit." (*Meyer*.)

**22460 and 22461. CUPRESSUS spp.****Cedar.**

From Paris, France. Purchased from Vilmorin-Andrieux & Co. Received March 27, 1908.

**22460.** CUPRESSUS BENTHAMII KNIGHTIANA (Perry) Mast.

**22461.** CUPRESSUS BENTHAMII LINDLEYI (Klotzsch) Mast.

**22463 and 22464. STIZOLOBIUM spp.**

From Saharunpur, Northwest Province, British India. Presented by Mr. A. C. Hartless, superintendent, Government Botanic Gardens. Received March 30, 1908.

**22463.** STIZOLOBIUM NIVEUM (Roxb.) Kuntze.

(For description see No. 19181.)

**22464.** STIZOLOBIUM CAPITATUM (Roxb.) Kuntze.

**22465. MEDICAGO SATIVA L.****Alfalfa.**

From Guaranda, Ecuador. Presented by Father Luis Sodiro, through Mr. C. J. Brand. Received March, 1908.

*Morada* or *Guaranda*. "This alfalfa is extensively grown in the Province of Bolivar at altitudes of 6,000 to 9,000 feet. Methods of cultivation, etc., are described in Bulletin No. 118, Bureau of Plant Industry." (*Brand*.)

**22466. MEDICAGO SATIVA L.****Alfalfa.**

From Lima, Peru. Presented by Prof. George Vanderghen, director of the Escuela Nacional de Agricultura, through Mr. C. J. Brand. Received March, 1908.

*Monsefu*. "This alfalfa is quite commonly cultivated in Peru; yields more cuttings and is more hairy, woody, and hollow stemmed than ordinary or Chilean alfalfa." (*Brand*.)

**22467. MEDICAGO SATIVA L.****Alfalfa.**

From Oberschüpf in Baden, Germany. Secured from Mr. Ludwig Keller, landwirth, through Mr. C. J. Brand. Received March, 1908.

*Alt Deutsche Frankische*. "(P. L. H. No. 3321.) This alfalfa has been grown for some years in south Germany on soils rich in shells and jurassic lime. It is grown especially in the vineyard regions, where a specialty is made of seed production. For this purpose fields having a southern exposure are given preference. When grown between the rows of grapes it gives its highest yields. Practically nothing is known of injury from dodder where this strain is grown, which has led to a belief among some growers in Baden that it is immune to dodder. This, however, is not the case. Sections where this *Old German Frankonian* lucern is grown are little adapted, on account of climatic conditions, to seed production, and it is said that this strain is the only one which has given satisfactory results. The seed is generally sown broadcast under barley. After the first year many growers throw the lucern into rows by hoeing. This enables the lower heads on the plants to mature their seed, and also tends to give a more uniformly ripe product.

"The first cutting is made when the lucern is about half grown (60 centimeters high), in order that the second crop may have time to mature its seed by September. Hulling machinery is uncommon in south Germany, so that pods are thrashed from the straw and then stored in the granary until winter. This method permits a certain amount of after-ripening and also in a measure



**22467—Continued.**

protects the seed from rodents. Thrashing and screening are done in winter, when the seed is finally made ready for market and sold. Lucern seed grown in this way can not, of course, be sold at the same price as ordinary French, Italian, and *Provence* seed.

"*Alt Deutsche Frankische* lucern is said to be hardier than the ordinary kinds and, on this account, to give greater yields. Fields of it are also said to endure longer than other kinds. While *Provence* lasts from six to eight years, *Old German Frankonian* gives good yields from ten to fifteen years. My correspondent states that the average yield is about 200 pounds per 120 square yards (2 zentner pro ar). The grower from whom this seed was secured has a field 25 years old whose stand is so good that it is still profitable. He states that when the *Provence* alfalfa becomes yellow and loses its lower leaves, which occurs both from drought and excessive moisture, *Frankonian* remains fresh and grows up again immediately after harvesting." (*Brand*.)

**22468 to 22486. CORYLUS AVELLANA L.****Filbert.**

From Nevada City, Cal. Purchased from Mrs. Felix Gillet, Barren Hill Nurseries. Received at the Plant Introduction Garden, Chico, Cal., March 18, 1908.

The following plants, with descriptions by Mrs. Gillet:

**22468. *Du Chilly Cobnut.***

Large and long, fine.

**22469. *Col. Filbert.*****22470. *Brunswick.*****22471. *Bysance.***

A good grafting stock.

**22472. *D'Alger.*****22473. *Geante des Halles.*****22474. *Noce Lunghe.* (Istria, 1901, Dept.)**

Finest of all.

**22475. *Nottingham.*****22476. *Aveline Grosse Ronde.* (Belgium, 1898, Dept.)****22477. *Emperor.* (Belgium, 1898, Dept.)****22478. *Kentish Cob.***

Long, large.

**22479. *Belgium,* 1898, Dept.****22480. *Montebello.* (Sicily, 1905, Dept.)****22481. *White Aveline.***

Thin shell, white pellicle.

**22482. *Red Aveline.***

Thin shell, red pellicle.

**22483. *Purple-Leafed Aveline.***

Very ornamental.

**22484. *Grosse Blanche of England.***

Similar to Barcelona.

**22485. *Daviana.***

Medium large, very pretty.

**22486. *Barcelona.***

Large, round.



**22487. BAMBOS ARUNDINACEA Retz.****Bamboo.**

From Saint Symphorien, Belgium. Presented by Mr. Jean Houzeau de Lehaie. Received March 30, 1908.

(For description see No. 21317.)

**22488. CICER ARIETINUM L.****Chick-pea.**

From Mexico City, Mexico. Purchased from Prof. Felix Foex, National School of Agriculture. Received April 1, 1908.

(For description see Nos. 10974 and 11634.)

**22489 to 22492.**

From Guelph, Ontario, Canada. Presented by Prof. C. A. Zavitz, Agricultural College, through Mr. N. H. Vinall. Received April 1, 1908.

**22489. CHAETOCHLOA ITALICA (L.) Scribn.**

**Millet.**

*California.*

**22490. PANICUM MILIACEUM L.**

**Proso millet.**

*Red French.*

**22491. CHAETOCHLOA ITALICA (L.) Scribn.**

**Millet.**

*Holy Terror Gold Mine.*

**22492. PANICUM MILIACEUM L.**

**Proso millet.**

*Japanese Panicle.*

"The above are to be used in classification work and varietal tests." (Vinall.)

**22496 and 22497.**

From Lahore, Punjab, British India. Presented by Mr. W. R. Mustoe, superintendent, Government Historical Gardens. Received March 16, 1908.

**22496. BEAUMONTIA GRANDIFLORA (Roxb.) Wall.**

"A climbing, woody vine. Leaves opposite, short petioled, oblong, 6 to 8 inches long, 2 to 5 inches wide, entire. Flowers greenish yellow, in axillary cymes. Corolla bell shaped, about 5 inches across, five lobed, margin wavy. \* \* \* Seed takes nearly one year to ripen." (Roxburgh.)

"Nomen bengalense: Dhootura Luta." (Wall.)

**22497. BOMBAX MALABARICUM DC.**

"One of the largest of the Indian trees, often 100 feet high. Leaves alternate, long petioled, digitate. Leaflets, 5 to 7, lanceolate, 6 to 12 inches long, entire, smooth on both sides. Covered with large red flowers early in spring, before the leaves appear.

"Salmuli, the Sanscrit name; Beng. *Simul*; Teling. *Boorgha*." (Roxburgh, *Flora Indica*, vol. 3, p. 167.)

**22498 to 22502.**

From Hangchow, Chehkiang, China. Presented by Dr. D. Duncan Main, through Mr. J. M. W. Farnham, Shanghai, China. Received March 26, 1908.

**22498 to 22501. GLYCINE HISPIDA (Moench) Maxim.**

**Soy bean.**

**22498.** Yellow. Similar to No. 18619.

**22499.** Yellow.

**22500.** Green. Similar to No. 17857.

**22501.** Black.

**22502. PISUM ARVENSE L.**

**Field pea.**

Varietal descriptions of the above were made by Mr. H. T. Nielsen.

**22503 to 22510.**

From Yokohama, Japan. Purchased from L. Boehmer & Co. Received March 31, 1908.

The following seeds with Japanese names quoted; varietal descriptions by Mr. H. T. Nielsen:

**22503 to 22507.** GLYCINE HISPIDA (Moench) Maxim. Soy bean.

**22503.** "*Teppo Mame.*"

Yellow, similar in appearance to *Amherst*, No. 17275.

**22504.** "*Kaze Mame.*"

Green.

**22505.** "*Gogwatsu Mame.*"

Yellow, similar to *Haberlandt*, No. 17271.

**22506.** "*Maru Mame.*"

Yellow.

**22507.** "*Vieuri Lei.*"

Green, similar to *Yosho*, No. 17262.

**22508 and 22509.** PHASEOLUS ANGULARIS (Willd.) W. F. Wight. Adzuki bean.

**22508.** Red.

**22509.** "*Shiro.*"

Yellow.

**22510.** PHASEOLUS RADIATUS L. Mung bean.

"*Runda Mame.*"



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Mr. Harlan  
U. S. DEPARTMENT OF AGRICULTURE.

BUREAU OF PLANT INDUSTRY—BULLETIN NO. 142.

B. T. GALLOWAY, *Chief of Bureau.*

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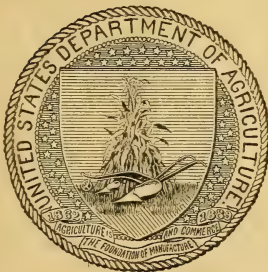
Mr. Harlan  
SEEDS AND PLANTS IMPORTED

DURING THE PERIOD FROM APRIL 1  
TO JUNE 30, 1908:

INVENTORY No. 15; Nos. 22511 to 23322.

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ISSUED FEBRUARY 25, 1909.



WASHINGTON:

GOVERNMENT PRINTING OFFICE.

1909.

## BULLETINS OF THE BUREAU OF PLANT INDUSTRY.

The scientific and technical publications of the Bureau of Plant Industry, which was organized July 1, 1901, are issued in a single series of bulletins, a list of which follows.

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U. S. DEPARTMENT OF AGRICULTURE.

BUREAU OF PLANT INDUSTRY—BULLETIN NO. 142.

B. T. GALLOWAY, *Chief of Bureau.*

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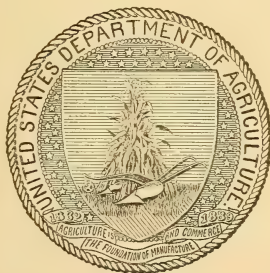
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## FOREIGN SEED AND PLANT INTRODUCTION.

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Frank N. Meyer and William D. Hills, *Agricultural Explorers*.

Albert Mann, *Expert in Charge of Special Barley Investigations*.

F. W. Clarke, *Special Agent in Charge of Matting-Rush Investigations*.

Frederic Chisolm, *Expert*.

Walter Fischer, R. A. Young, and H. C. Skeels, *Scientific Assistants*.

## LETTER OF TRANSMITTAL.

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U. S. DEPARTMENT OF AGRICULTURE,  
BUREAU OF PLANT INDUSTRY,  
OFFICE OF THE CHIEF,  
*Washington, D. C., October 19, 1908.*

SIR: I have the honor to transmit herewith, and to recommend for publication as Bulletin No. 142 of the series of this Bureau, the accompanying manuscript, entitled "Seeds and Plants Imported During the Period from April 1 to June 30, 1908: Inventory No. 15; Nos. 22511 to 23322."

This manuscript has been submitted by the Agricultural Explorer in Charge of Foreign Seed and Plant Introduction with a view to publication.

Respectfully,

B. T. GALLOWAY,  
*Chief of Bureau.*

HON. JAMES WILSON,  
*Secretary of Agriculture.*



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bamboos, some of which are hardy enough to grow in the climate of Peking, which resembles that of Philadelphia; a wild oat from the dry elevated portions of the Wutaishan, and soy beans, cowpeas, sorghums, cottons, and many other very valuable things from this great Klondike of new plant varieties, where almost every cultivator saves his own seeds and thus originates new strains.

Special mention should be made of an unusual piece of introduction work which Consul Magelssen, of Bagdad, carried out at our request, i. e., the securing and proper labeling of what may be considered one of the most successfully landed collections of Arabian date-palm suckers.

Through the increasingly large number of friends of plant introduction both abroad and at home a number of interesting things have been secured by correspondence: Cork acorns from southern Spain; a summer orange called the *Natsu mikan*, from Japan, which ripens in midsummer and is served on the tables of foreigners there just as the pomelo is in America; a collection of Indian green-manure and fodder plants from Nimboli; a broad-leaved variety of alfalfa from Elche, Spain; a collection of taros from Cochin China; a collection of rare sorghums from Entebbe, Uganda; the sugar palm from the East Indies; the white Alfonso mango from Bombay; a unique collection of wild and cultivated potatoes from the archipelago of Chiloe, in southern Chile, the home of the potato, and from the adjoining mainland, made by Mr. José D. Husbands; and a collection of Guatemalan cacti and a Central American dahlia secured for us by the late Prof. W. A. Kellerman just before his unfortunate death in the Guatemalan forest.

It should be repeated that the seeds and plants here listed are not necessarily for distribution, nor is it always possible to supply those who desire the various things listed here with what they want; but it is the aim of the office to get anything that a plant breeder or plant experimenter wants, whether it appears in these inventories or not, provided it is not already on the market, in which case the applicant will be referred to the catalogues which advertise it. To introduce a plant and get it into the regular trade channels without in any way interfering with the legitimate business in plant novelties which the seedsmen and nurserymen of the country are so well carrying on is one of the objects of our work.

The botanical determinations of the material are, as in the previous inventory, those of Messrs. W. F. Wight and H. C. Skeels, while the inventory has been prepared by Miss Mary A. Austin.

DAVID FAIRCHILD,  
*Agricultural Explorer in Charge.*

OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION,  
*Washington, D. C., October 7, 1908.*

# INVENTORY.

## 22511. PUERARIA THUNBERGIANA (S. & Z.) Benth. Kudzu.

From Yokohama, Japan. Purchased from L. Boehmer & Co. Received April 4, 1908.

See No. 22341 for description.

## 22512. ROLLINIA ORTHOPETALA A. DC.

From Pará, Brazil. Presented by Prof. C. F. Baker, Museu Goeldi, Caixa Postal No. 399, through Mr. O. W. Barrett. Received April 4, 1908.

"The finest anonaceous fruit of tropical America." (*Baker.*)

"Tree 30 to 40 feet high; leaves oblong, acuminate, acute at base; corolla 1 inch in diameter, greenish yellow. Fruit size of an infant's head, greenish yellow; flesh white, sweet. Grows in flooded woods along the Amazon." (*Martius.*)

## 22513 to 22523.

From Bridgetown, Barbados, British West Indies. Presented by Mr. John R. Bovell, superintendent, Agricultural Department, at the request of the Imperial Commissioner of Agriculture for the West Indies, through Mr. O. W. Barrett. Received April 4, 1908.

- |                               |                                |
|-------------------------------|--------------------------------|
| 22513. <i>Milady.</i>         | 22519. <i>Geremy Barbados.</i> |
| 22514. <i>Banana tannia.</i>  | 22520. <i>Leafman.</i>         |
| 22515. <i>Red tacca.</i>      | 22521. <i>Button tannia.</i>   |
| 22516. (Unknown.)             | 22522. <i>Gray Jack.</i>       |
| 22517. <i>Choice Marquis.</i> | 22523. <i>White Leftman.</i>   |
| 22518. <i>China eddo.</i>     |                                |

"A collection of taros and yautias which are grown extensively as wet-land crops in Barbados. Procured for the collection of these plants in Florida." (*Fairchild.*)

## 22524 to 22527. JUGLANS spp. Walnut.

From Baumschulenweg, near Berlin, Germany. Purchased from Mr. L. Späth. Received March 28, 1908.

Notes taken from Mr. L. Späth's catalogue for 1907-1908.

22524. × JUGLANS INTERMEDIA PYRIFORMIS CART. (J. NIGRA × REGIA?)

A hybrid with large, multi-pinnate, light green leaves.

22525. × JUGLANS INTERMEDIA VILMORINIANA CART. (J. NIGRA × REGIA?)

A beautiful and imposing tree, perfectly hardy.



**22524 to 22527—Continued.****22526. JUGLANS REGIA L.**

*J. regia fertilis* Hort., *J. regia praeparturiens* Hort. Bush walnut; very early bearing.

**22527. JUGLANS REGIA L.**

*J. regia rubra* Hort. Red-skinned walnut.

**22528. VITIS VINIFERA L.****Grape.**

From Niles, Cal. Presented by the California Nursery Company. Received at the Plant Introduction Garden, Chico, Cal., March, 1908.

*Sultanina Rosea*. A seedless variety. (See No. 3921 for description.)

**22529. PANICUM MAXIMUM Jacq.**

From Livingstone, Victoria Falls, northwestern Rhodesia. Presented by Mr. C. E. F. Allen, conservator. Received April 6, 1908.

"A valued grass in this country for hay and pasture." (*Allen*.)

**22530. LANDOLPHIA CAPENSIS Oliv.**

From Pretoria, Transvaal, South Africa. Presented by Prof. J. Burt Davy, agrostologist and botanist, Transvaal Department of Agriculture. Received April 6, 1908.

"A small bush of the Magaliesberg. These fruits have an agreeable flavor and are used for jam and brandy and are eaten raw. The fruit is known as the 'wild peach' or 'wild apricot'.

"This Landolphia is not likely to yield commercial rubber. The bush requires a warm, almost frostless situation." (*Davy*.)

**22531. ANONA CHERIMOLA Mill.****Cherimoyer.**

From Island of Madeira. Presented by Mr. Charles O. L. Power. Received April 6, 1908.

"These cuttings were taken from a tree which produces good-sized, normal fruit of the smooth-skinned variety; it has no particular name here.

"It is the best tree as regards size and quality I have in my garden, but, as is the case with all cherimoyers here, both the size and quality vary very much from year to year." (*Power*.)

**22532. HORDEUM POLYSTICHUM TRIFURCATUM (Schlect.) Asch. & Graebn.****Barley.**

From Fort Collins, Colo. Secured from Prof. W. D. Olin, agronomist, Agricultural Experiment Station. Received April 8, 1908.

*Hull-less*. "Grown from No. 12709. Adapted to high altitude." (*Derr*.)

**22533. CRATAEGUS PINNATIFIDA Bunge.****Hawthorn.**

From Shantung Province, China. Presented by Rev. J. M. W. Farnham, Chinese Tract Society, Shanghai, Kiangsu, China. Received March 26, 1908.

"The Chinese name for this fruit is *San dzo*, the first syllable of the word, San, means mountain and would point to its cultivation in mountainous regions. It is about the size of a crab apple and resembles the thorn apple, of which I presume it is a species. It makes an exceptionally nice jam. The fruit when ripe is washed and each one cut open to see that there is no decay or

**22533—Continued.**

worm, and the whole is boiled. It is then rubbed through a sieve to separate the skin, seeds, etc. The pulp is then *slightly* cooked with sufficient sugar. If much boiled it turns to jelly. The taste and flavor remind me of the New England boiled cider-apple sauce, in Pennsylvania called 'apple butter.' I think it has a nice aromatic flavor, and if not cultivated in America I have sent you seeds enough to give it a speedy introduction." (*Farnham*.)

**22534 and 22535. GLYCINE HISPIDA (Moench) Maxim. Soy bean.**

From Weihstien, China. Presented by Mrs. C. W. Mateer. Received April 4, 1908.

**22534.** Yellow. "This bean is used for making lamp and cooking oil and for flour to make cakes; also for bean curd (a mush curdled by caustic soda and eaten fried). All these are nourishing, but more esteemed by Chinese than foreigners. The refuse after expressing the oil forms a cake (round) 2 feet in diameter and 3 inches thick. This is exported for feeding animals (pounded fine) and enriching land." (*Mateer*.)

**22535.** Black. Similar in appearance to *Cloud*.

**22536 to 22540.**

From Chefoo, Shantung, China. Presented by Mr. Hunter Corbett, through Rev. J. M. W. Farnham, of Shanghai, China. Received April 4, 1908.

The following seeds, varietal descriptions by Mr. H. T. Nielsen:

**22536 to 22538. GLYCINE HISPIDA (Moench) Maxim. Soy bean.**

**22536.** Green. Similar to No. 17857.

**22537.** Green. Similar to No. 17262, *Yosho*.

"Chinese names (S. P. I. No. 22536) *Ching teo* and *Luh teo*; (S. P. I. No. 22537) *Whong teo*. These beans are used extensively for the manufacture of oil; the bean cake which remains after the oil has been pressed out is shipped south and extensively used as a fertilizer in vegetable gardens. Will grow well on level or high and hilly land. Is used by the people largely for food, being ground and made into a curd, also put in water and soaked until well sprouted and used as a vegetable. It is also boiled and eaten in the same manner as rice." (*Corbett*.)

**22538.** Black. Similar in appearance to *Cloud*.

"Chinese name *Shao hih teo*. Used chiefly for feeding animals." (*Corbett*.)

**22539. VIGNA UNGUICULATA (L.) Walp. Cowpea.**

*Whippoowill*. Similar to Nos. 17330, 17849, and 21085.

"Chinese name *Hung Chiang teo*. Planted in orchards and in ground overshadowed by trees, etc." (*Corbett*.)

**22540. PISUM ARVENSE L. Field pea.**

"Chinese name *Wan teo*. Used extensively in the manufacture of vermicelli." (*Corbett*.)

**22541 to 22549.**

From Chelsea, S. W., London, England. Presented by James Veitch & Son. Received April 3, 1908.

**22541. ACONITUM HEMSLEYANUM E. Pritzl.**

**22541 to 22549—Continued.**

22542. *ACONITUM* sp. (?)  
 22543. *ASTILBE* sp. (?)  
 22544. *ARTEMISIA LACTIFLORA* Wall.  
 22545. *BERBERIS ACUMINATA* Franch.  
 22546. *JASMINUM PRIMULINUM* Hemsl.  
 22547. *VITIS ARMATA* Diels & Gilg.  
     Var. *Veitchii*.  
 22548. *LONICERA MAACKII* (Rupr.) Herd.  
 22549. *LONICERA TRAGOPHYLLA* Hemsl.

**22550 to 22555.**

From Groningen, Netherlands. Presented by Mr. J. W. Moll, director, Botanic Garden. Received April 8, 1908.

22550. *ARRHENATHERUM ELATIUS* (L.) Beauv.  
 22551. *PANICULARIA MAGELLANICA* (Hook. f.) Kuntze.  
 22552. *PODOPHYLLUM EMODI* Wall.  
 22553. *LATHYRUS MONTANUS* Bernh.  
 22554. *LATHYRUS NIGER* (L.) Bernh.  
 22555. *LATHYRUS VERNUS* (L.) Bernh.

**22556. *GARCINIA TINCTORIA* (DC.) W. F. Wight. (*XANTHOCYHMUS TINCTORIUS* DC.)**

From Alas Besorki, Java. Presented by Mr. W. S. Lyon, Manila, P. I.  
 Received April 7, 1908.

"A robust grower." (*Lyon*.)

"Introduced as a possible stock for the mangosteen." (*Fairchild*.)

**22557. *CYNARA SCOLYMUS* L.****Artichoke.**

From Algiers, Algeria. Purchased from Dr. L. Trabut. Received April 6, 1908.

*Violet Provence.*

**22558 and 22559. *MEDICAGO SATIVA* L.****Alfalfa.**

From Gunnison, Utah. Purchased from Mr. W. H. Gribble, through Mr. C. J. Brand. Received April 8, 1908.

22558. Irrigated.

"Grown at Centerfield, Utah, in the San Pitch Valley. This seed is grown from the first crop of the season." (*Brand*.)

22559. Dry land.

"Grown in the Sevier Valley, near Gunnison, Utah, in 1907." (*Brand*.)

**22560 to 22563. *JUGLANS REGIA* L.****Persian walnut.**

From Troyes, France. Purchased from Baltet Frères. Received April 9, 1908.

22560. *Chabert*.

22562. *Mayette*.

22561. *Franquette*.

22563. *Parisienne*.

**22564 and 22565.**

From Pretoria, Transvaal, South Africa. Presented by Prof. J. Burt Davy, government agrostologist and botanist, through Mr. C. V. Piper. Received April 10, 1908.

**22564.** PENNISETUM AMERICANUM (L.) Schum. Pearl millet.

"*um-Vellivelli*."

**22565.** ELEusine CORACANA (L.) Gaertn. Ragi millet.

"*Mpoho*."

"Both of these have been grown in the low country and are from this season's crop just harvested." (*Davy*.)

**22566 and 22567. CITRUS AURANTIUM L. Orange.**

From Poona, Bombay, India. Presented by Mr. N. M. Bhagawat, acting superintendent, Empress Botanical Gardens. Received April 10, 1908.

**22566.** *Ladoo*. (See No. 8441 for description.)

**22567.** *Suntra*. (See No. 8446 for description.)

**22568 and 22569. VICIA FABA L. Broad bean.**

From Hangchow, Chehkiang, China. Presented by Dr. D. Duncan Main and Rev. J. H. Judson. Received March 26 and April 6, 1908.

**22568.** Small green.

**22569.** Brownish green. Medium size.

**22571 to 22629.**

From Peking, Chihli, China. Received through Mr. Frank N. Meyer, agricultural explorer, at the Plant Introduction Garden, Chico, Cal., February 4, 1908.

A collection of cuttings and seeds, as follows:

**22571.** DEUTZIA sp.

From Shutseshan, Chihli, China. "(No. 152, Nov. 18, 1907.) A low-growing Deutzia, found here and there in crevices of the rocks. May prove to be a valuable little shrub for gardens in semiarid regions." (*Meyer*.)

**22572.** FRAXINUS BUNGEANA DC.

From Pangshan, Chihli, China. "(No. 155, Nov. 20, 1907.) An ash growing in rocky situations and on steep mountain sides. Attains, apparently, no great size. May be of use as a foresting plant in semiarid regions." (*Meyer*.)

**22573.** (Undetermined.)

From Pangshan, Chihli, China. "(No. 156, Nov. 20, 1907.) A low, very bushy shrub, found growing between boulders. Looks very much like *Syringa amurensis* Rupr. Will be valuable as a garden shrub in semiarid regions." (*Meyer*.)

**22574.** SPIRAEA sp.

From Pangshan, Chihli, China. "(No. 157, Nov. 20, 1907.) A Spiraea which may be of use as a garden shrub in semiarid regions, as it grows in crevices of rocks and in dry and sterile locations." (*Meyer*.)

## 22571 to 22629—Continued.

## 22575. SPIRAEA sp.

From Pangshan, Chihli, China. "(No. 158, Nov. 20, 1907.) A very low growing Spiraea, with adiantum-like leaves. May be of use as an ornamental shrub for rockeries or for gardens in semiarid regions." (Meyer.)

## 22576. PRUNUS sp.

Plum.

From Pangshan, Chihli, China. "(No. 162, Nov. 21, 1907.) A double red-flowered, bushy plum called *Yu men tau*. Said to be very fine looking in springtime. Propagated by being budded on to *Amygdalus davidiana* or by layering." (Meyer.)

## 22577. PRUNUS sp.

Plum.

From Pangshan, Chihli, China. "(No. 163, Nov. 21, 1907.) A large-flowered, bushy plum, the flowers of which are said to have a blue color. Chinese name *Tsu tsa lau hua*. Probably a variety of No. 162 (S. P. I. No. 22576)." (Meyer.)

## 22578. CATALPA BUNGEI C. A. Meyer.

From Pangshan, Chihli, China. "(No. 164, Nov. 21, 1907.) Chinese name *Wu tung shu*. A fine flowering tree; also of use for wind-breaks and for poles. Adapted to semiarid regions." (Meyer.)

## 22579. (Undetermined.)

Bamboo.

From Pangshan, Chihli, China. "(No. 165, Nov. 21, 1907.) An ornamental bamboo of a very low growing, bushy habit, 3 to 5 feet high. Loves a somewhat protected place—for instance, against a wall with southern or eastern exposure. Chinese name *Tsau chu*." (Meyer.)

## 22580. PRUNUS ARMENIACA L.

Apricot.

From Pangshan, Chihli, China. "(No. 172, Nov. 23, 1907.) A red, medium-sized apricot; said to be very early. Chinese name *Hung siing*." (Meyer.)

## 22581. CYDONIA sp.

Quince.

From Pangshan, Chihli, China. "(No. 174, Nov. 23, 1907.) A small-fruited quince, the fruits of which are very fragrant and much in demand as room perfumers. Chinese name *Pei mu kua*. Apparently a variety of *Cydonia japonica*." (Meyer.)

## 22582. FRAXINUS sp.

Ash.

From Tungying, Chihli, China. "(No. 176, Nov. 29, 1907.) A shrubby ash, found in dry and sterile locations. Seems to be different from No. 155 (S. P. I. No. 22572); otherwise, the same remarks apply to it." (Meyer.)

## 22583. EUONYMUS sp.

From Yenmenkwan, Chihli, China. "(No. 178, Nov. 30, 1907.) A shrubby, deciduous Euonymus, found growing in very dry situations; may be of use as a garden shrub in semiarid regions." (Meyer.)

## 22584. SAMBUCUS sp.

Elder.

From near Santchako, Chihli, China. "(No. 179, Dec. 1, 1907.) A thrifty species of elder, seen only a couple of times. Loves moist situations." (Meyer.)

**22571 to 22629—Continued.****22585. BERBERIS CHINENSIS Poir.**

From Shinglung, Chihli, China. "(No. 185, Dec. 2, 1907.) The same as No. 160 (S. P. I. No. 21909) but from a different locality; for remarks, see this number." (Meyer.)

**22586. CELASTRUS sp.**

From near Tungying, Chihli, China. "(No. 188, Dec. 4, 1907.) A very vigorous species of *Celastrus*, found growing along rocky trails. May perhaps grow to a very great size; will trail itself into trees or crawl over rocks." (Meyer.)

**22587. DIERVILLA sp.****Weigela.**

From near Tungying, Chihli, China. "(No. 190, Dec. 4, 1907.) A vigorous-growing *Weigela*, bearing small clusters of pale, rose-colored flowers in early summer. Grows in rocky crevices and on steep mountain sides and seems to be able to withstand drought very well. Of use as an ornamental shrub in gardens and parks." (Meyer.)

**22588. PHILADELPHUS sp.**

From Tungying, Chihli, China. "(No. 191, Dec. 4, 1907.) A species of mock orange found growing in dry, rocky locations. May be useful as a garden shrub in dry regions." (Meyer.)

**22589. DEUTZIA sp.**

From near Tungying, Chihli, China. "(No. 192, Dec. 4, 1907.) Found growing in rocky crevices. Seems to be of a very low growth, 2 to 3 feet. Probably of use as a small garden shrub in semiarid regions." (Meyer.)

**22590. SPIRAEA sp.**

From Jehol, Chihli, China. "(No. 200, Dec. 11, 1907.) A small, shrubby *Spiraea* found growing on dry, exposed mountain sides. Of use as a rockery shrub in small-sized gardens in dry regions." (Meyer.)

**22591. SAMBUCUS RACEMOSA L. (?)****Elder.**

From near Peking, Chihli, China. "(No. 204, Dec. 15, 1907.) A low-growing elder; stands cutting back to the ground every year. Loves to grow on high, dry banks along the fields. May be of use for bank-binding purposes in semiarid regions." (Meyer.)

**22592. VIBURNUM OPULUS L.**

From Shinglungshan, Chihli, China. "(No. 205, Dec. 1, 1907.) A few cuttings of the snowball bushes, which were most heavily loaded with bunches of scarlet berries at time of collecting. Seemed to be a more floriferous type than the ordinary one." (Meyer.)

**22593. ACTINIDIA KOLOMIKTA (Maxim.) Rupr. (?)**

From near Tungying, Chihli, China. "(No. 207, Dec. 4, 1907.) The small-fruited gooseberry bush. Seems to be a variety of much shorter growth than the ordinary type." (Meyer.)

**22594. QUERCUS sp.****Oak.**

From Shinglungshan, Chihli, China. "(No. S34a, Dec. 2, 1907.) Acorns of an oak which bears rather broad leaves, deeply lobed. Probably *Quercus mongolica*. Grows on dry, rocky mountain sides. May be, for this reason, of use as a foresting tree in semiarid climes. Chinese name *Bo li shu*." (Meyer.)



## 22571 to 22629—Continued.

22595. *PYRUS CHINENSIS* Lindl.

Pear.

From Jehol, Chihli, China. "(No. 840a, Dec. 9, 1907.) Obtained from several varieties of cultivated pears, among which were strange types. Some desirable forms may spring up from these northern-grown varieties." (Meyer.)

22596. *CORYLUS* sp.

Hazelnut.

From near Shinglungshan, Chihli, China. "(No. 841a, Dec. 3, 1907.) A wild hazelnut growing 3 or 4 feet high and covering here and there whole mountain slopes and sloping valleys. Seems to be able to stand drought very well." (Meyer.)

22597. *DIOSPYROS KAKI* L. f.

Persimmon.

From Pangshan, Chihli, China. "(No. 843a, Nov. 23, 1907.) The very fine persimmon called *Siang shi tse*, scions of which were sent under No. 161 (S. P. I. No. 21910)." (Meyer.)

22598. *DIOSPYROS KAKI* L. f.

Persimmon.

From Pangshan, Chihli, China. "(No. 843a, Nov. 23, 1907.) A large variety of persimmon of flat shape, occasionally having seeds." (Meyer.)

22599. *DIOSPYROS KAKI* L. f.

Persimmon.

From Pangshan, Chihli, China. "(No. 844a, Nov. 20, 1907.) The ordinary wild persimmon, called by the Chinese *Gai tsao*, upon which they graft all their seedless persimmons." (Meyer.)

22600. *PRUNUS* sp.

Plum.

From Pangshan, Chihli, China. "(No. 845a, Nov. 21, 1907.) A flowering plum, said to have double red flowers; often cultivated in temple courts; called *Yu mei tau*. Several varieties will in all probability appear among the seedlings. Budwood previously sent under No. 162 (S. P. I. No. 22576)." (Meyer.)

22601. *VITIS VINIFERA* L.

Grape.

From Lungwa, Chihli, China. "(No. 846a, Dec. 1, 1907.) A wild variety which bears heavy crops of rather large bunches of small, black grapes; edible. Chinese name *Shan poo tau*. Of use as a stock in cold regions." (Meyer.)

22602. *ACER* sp.

Maple.

From Pangshan, Chihli, China. "(No. 847a, Nov. 23, 1907.) An ornamental maple, attaining a height of about 40 to 50 feet; able to grow in dry regions." (Meyer.)

22603. *FRAXINUS BUNGEANA* DC.

Ash.

From near Tungying, Chihli, China. "(No. 848a, Dec. 4, 1907.) A small ash tree growing on dry, rocky mountain slopes; well fit for covering barren mountain or hillsides. Chinese name *Koo li sur shu*." (Meyer.)

22604. *FRAXINUS BUNGEANA* DC.

Ash.

From Pangshan, Chihli, China. "(No. 849a, Nov. 20, 1907.) A small ash tree found on dry, rocky mountain slopes. Apparently the same as No. 848a (S. P. I. No. 22603). Scions of the tree from which this seed came were sent under No. 155 (S. P. I. No. 22572). Chinese name *Koo li sur shu*." (Meyer.)

## 22571 to 22629—Continued.

22605. JUGLANS MANDSHURICA Maxim.

Walnut.

From near Laushang, Chihli, China. "(No. 850a, Dec. 3, 1907.) Apparently a small form of the Manchurian wild walnut." (Meyer.)

22606. ZIZYPHUS SATIVA Gaertn.

Chinese date.

From Jehol, Chihli, China. "(No. 853a, Dec. 9, 1907.) To be used as a stock for improved varieties." (Meyer.)

22607. CRATAEGUS sp.

Hawthorn.

From Laushang, Chihli, China. "(No. 854a, Dec. 3, 1907.) Probably *Crataegus pinnatifida*. May be utilized as stock for the large-fruited varieties. Chinese name of this wild one *Shan li hong*. The seeds may remain dormant for one year or more." (Meyer.)

22608. SYRINGA AMURENSIS Rupr.

Lilac.

From near Laushang, Chihli, China. "(No. 855a, Dec. 3, 1907.) The beautiful white-flowering *Amur* lilac, which is mostly found as a shrub, though it grows in favorable localities into a tree 40 feet tall with a trunk 2 feet in diameter. Stands droughts and sterile soils remarkably well. A good shrub for regions with dry, hot summers and cold winters." (Meyer.)

22609. GREWIA PARVIFLORA Bunge.

From Pangshan, Chihli, China. "(No. 856a, Nov. 20, 1907.) A shrub growing from 2 to 10 feet tall, bearing red berries which persist until long into the winter. Grows in dry and rocky locations; as such well fit for gardens in dry regions. Chinese name *Niang nien tchun*. The berries are edible, though not nice." (Meyer.)

22610. VIBURNUM OPULUS L.

From Shinglungshan, Chihli, China. "(No. 857a, Dec. 1, 1907.) The branches from which these seeds were picked were sent under No. 205 (S. P. I. No. 22592). See this number for remarks." (Meyer.)

22611. DEUTZIA sp.

From Pangshan, Chihli, China. "(No. 858a, Nov. 20, 1907.) A small shrub, found growing on exposed, rocky hill slopes; well fit for rockeries and for gardens in dry regions. Is probably the same species as the one sent under No. 152 (S. P. I. No. 22571)." (Meyer.)

22612. RHAMNUS sp.

From Pangshan, Chihli, China. "(No. 859a, Nov. 20, 1907.) A large-leaved, very shrubby *Rhamnus*, very spiny; found growing between rocks and boulders. May be of use as a hedge plant in dry situations." (Meyer.)

22613. RHAMNUS sp.

From Pangshan, Chihli, China. "(No. 860a, Nov. 20, 1907.) A small-leaved, dwarfy *Rhamnus*, spiny; found growing between rocks. Fit as a rockery shrub or as a lining bush along pathways in small gardens." (Meyer.)

22614. BERBERIS CHINENSIS Poir.

Barberry.

From Shinglungshan, Chihli, China. "(No. 861a, Dec. 2, 1907.) A low, very spreading bush. Perhaps fit as a sand and bank binder in dry regions. Cuttings sent under Nos. 160 and 185 (S. P. I. Nos. 21909 and 22585)." (Meyer.)

## 22571 to 22629—Continued.

22615. *ROSA* sp.

From near Shinglungshan, Chihli, China. "(No. 862a, Dec. 3, 1907.) A wild rose of a very spreading habit, having red-colored stems 2 to 3 feet high, very spiny, and bearing many bunches of large scarlet berries. May be of use as a soil binder in rather dry regions." (*Meyer.*)

22616. *CELASTRUS ARTICULATUS* Thunb.

From Pangshan, Chihli, China. "(No. 863a, Nov. 20, 1907.) A tall climber bearing yellow capsules which burst open when ripe and show the scarlet seeds. Chinese name *Yau go dau tse*." (*Meyer.*)

22617. *VITIS* sp.

From Pangshan, Chihli, China. "(No. 864a, Nov. 24, 1907.) Fit for rockeries and along terraces. The same as No. 153 (S. P. I. No. 21907)." (*Meyer.*)

22618. *ALBIZZIA* sp.

From Pangshan, Chihli, China. "(No. 865a, Nov. 23, 1907.) See No. 768a (S. P. I. No. 21969) for remarks about this tree. This species is quite distinct from *Albizzia julibrissin*, which is much more floriferous and of which the leaves, though much finer pinnated, are much smaller. Bunge seems to have called this one *Acacia macrophylla*, which is declared a synonym of *Acacia lebbek*, which is, however, a totally different plant." (*Meyer.*)

22619. *CASSIA* sp.

From Peking, Chihli, China. "(No. 873a, Nov. 14, 1907.) A cassia, looking like *Cassia marylandica*, bearing long racemes of dark yellow flowers. Used locally as a garden plant. A perennial herb well fit for gardens in dry regions." (*Meyer.*)

22620. *CLEMATIS RECTA* MANDSHURICA (Rupr.) Maxim.

From Shinglungshan, Chihli, China. "(No. 875a, Dec. 2, 1907.) An herbaceous perennial, 2 to 3 feet high, bearing one to five erect stems, which terminate in a panicle of rather large, white flowers. Well fit to be improved, when it may become a cut-flower plant of the first order. Of use now as an ornamental garden perennial." (*Meyer.*)

22621. *CLEMATIS* sp.

From near Yenmenkwan, Chihli, China. "(No. 876a, Nov. 30, 1907.) A creeping clematis running over hedges and stone piles. Seems to be very floriferous; makes woody stems." (*Meyer.*)

## 22622. (Undetermined.)

From Shutseshan, Chihli, China. "(No. 877a.) Seeds of a Valerianacea, being a perennial herbaceous herb bearing small yellow flowers; ornamental when in a mass. Fit for rockeries and dry situations." (*Meyer.*)

22623. *SALVIA* sp.

From near Tungying, Chihli, China. "(No. 878a, Dec. 4, 1907.) A shrubby perennial, 3 to 4 feet high, very floriferous; found growing in very rocky locations. May be of use as a honey plant in semiarid regions." (*Meyer.*)

**22571 to 22629—Continued.****22624. ASPARAGUS sp.**

From near Laushang, Chihli, China. "(No. 880a, Dec. 30, 1907.) Wild asparagus. A tall form, 3 to 4 feet high, growing between grass, having zigzag stems and bent-down branches. Of use as an ornamental garden plant." (*Meyer.*)

**22625. ASPARAGUS sp.**

From near Laushang, Chihli, China. "(No. 881a, Dec. 3, 1907.) Wild asparagus. A small form 1 foot high; otherwise, apparently the same as No. 880a (S. P. I. No. 22624)." (*Meyer.*)

**22626. ASPARAGUS sp.**

From Shinglungshan, Chihli, China. "(No. 882a, Dec. 2, 1907.) Wild asparagus; found growing on the mountain tops under the shade of pine trees. Has straight stems." (*Meyer.*)

**22627. LILIUM sp.**

From near Shinglungshan, Chihli, China. "(No. 883a, Dec. 1, 1907.) A small lily, 3 feet high, found growing between grass." (*Meyer.*)

**22628. (Undetermined.)**

From Shinglungshan, Chihli, China. "(No. 884a, Dec. 3, 1907.) A leguminous plant found growing between grasses." (*Meyer.*)

**22629. CYDONIA JAPONICA (Thunb.) Pers.****Quince.**

From Peking, Chihli, China. "(No. 899a, Dec. 24, 1907.) A small-fruited quince having a very spicy odor. The fruits are sold as room perfumers. Chinese name *Mu li*." (*Meyer.*)

**22630. CASTILLA sp.**

From Ancon, Canal Zone, Panama. Presented by Mr. Henry F. Schultze through Mr. O. W. Barrett. Received April 17, 1908.

"Seed from our best rubber-producing trees." (*Schultze.*)

**22631 and 22632. GOSSYPIUM BARBADENSE L.****Cotton.**

From Cairo, Egypt. Purchased from Mr. George P. Foaden, Khedivial Agricultural Society. Received April 15, 1908.

**22631.** *Jannovitch.* (For description see S. P. I. No. 3991.)

**22632.** *Mit Afifi.* (For description see No. 3992.)

See also Bulletin No. 62 of the Bureau of Plant Industry for descriptions.

**22633 to 22635.**

From Sheklung, Kwongtung, China. Presented by Mr. A. J. Fisher, American Presbyterian Mission. Received April 3, 1908.

**22633 and 22634.** *GLYCINE HISPIDA (Moench) Maxim.*

**Soy bean.**

**22633.** Yellow. Similar in appearance to *Acme*, No. 14954, but seed is a trifle larger.

**22634.** Black. Seed flatter than any other of the same size received from China.

**22635.** *VIGNA UNGUICULATA (L.) Walp.*

**Cowpea.**

*Chinese Red.* Apparently identical with No. 17328, which is the progeny of No. 6557.

Varietal descriptions of the above were made by Mr. H. T. Nielsen.

**22637 to 22640. PISUM ARVENSE L.****Canada field pea.**

From Guelph, Canada. Presented by Prof. C. A. Zavitz, Ontario Agricultural College, through Mr. C. V. Piper. Received April 16, 1908.

22637. *Multipliers.*22639. *White Scimitar.*22638. *Clamart.*22640. *Canadian Beauty.***22641 and 22642.**

From Paris, France. Purchased from Vilmorin-Andrieux & Co. Received April 8, 1908.

22641. *BRYONIA DIOICA* Jacq.

"An herbaceous, climbing member of the pumpkin family, interesting on account of the handsome foliage with development of remarkably long tendrils. The large perennial root, sliced and dried, appears on the drug market under the name of Bryonia, and is a very highly valued drug, especially in homeopathic medicine." (*R. H. True.*)

22642. *ECBALLIUM ELATERIUM* (L.) A. Rich.

"An herbaceous, hairy annual, producing a trailing vine and characteristic cucurbitaceous inflorescence. The fruit on ripening undergoes a process of softening, which results finally in the splitting of the coating of the fruit and the squirting out of the seeds and soft pulp. Hence the name 'Squirting cucumber.' The drug elaterium is obtained from the juice pressed from the nearly ripe fruit. This juice after straining deposits an opaque grayish sediment which forms the characteristic elaterium cakes seen in the commercial article." (*R. H. True.*)

**22643. PENNISETUM AMERICANUM (L.) Schum.****Pearl millet.**

From Cape Town, South Africa. Presented by Dr. E. A. Nobbs, Department of Agriculture. Received April 17, 1908.

"Seed of *N'yout*, pronounced knee-out; is extensively grown in Bechuanaland and all over Rhodesia; is used as a native food and is also given to mules. It is similar in character to Kafir corn but finer and smaller, and I think may be of considerable value." (*Nobbs.*)

**22644 to 22649.**

From Hangchow, Chehkiang, China. Presented by Mr. John L. Stuart. Received April 18, 1908.

The following seeds, varietal descriptions by Mr. H. T. Nielsen:

22644 to 22646. *GLYCINE HISPIDA* (Moench) Maxim.**Soy bean.**

22644. Smoky yellow. Looks like it might possibly be a mixture.

22645. Greenish yellow. Similar in appearance to *Haberlandt*, No. 17263.

22646. Yellow. Practically identical with No. 18619.

22647. *VIGNA SESQUIPEDALIS* (L.) W. F. Wight.

Black.

22648. *VIGNA SESQUIPEDALIS* (L.) W. F. Wight.

Red.

22649. *MEDICAGO DENTICULATA* Willd.**Bur clover.**



**22650 to 22652.**

From Shanghai, Kiangsu, China. Presented by Rev. J. M. W. Farnham, Chinese Tract Society. Received April 15, 1908.

The following plants:

**22650. AMYGDALUS PERSICA L.**

**Peach.**

*Shanghai.* "These peaches are called the *Honey* peach, and I think are very fine." (*Farnham.*)

**22651. CITRUS AURANTIUM SINENSIS L.**

**Sweet orange.**

*Canton.* "If you have not this variety in America, it would be a great boon to introduce it.

"Mrs. Farnham and I have eaten oranges in many parts of the world, in southern Europe, taken fresh from the trees outside of Jafa, the famous *Navel* orange of California, and elsewhere, and are of the opinion that the *Canton* is far the most delicious. There is a very long season, from, say, December to April, and it seems to me that there must be slightly different varieties, resembling the varieties of apples that come on through the different seasons, though with far less difference." (*Farnham.*)

**22652. CITRUS AURANTIUM SINENSIS L.**

**Sweet orange.**

*Swatow.* "The Swatow oranges are much admired by some. They grow to a large size and are a deep orange color, with a soft skin that is easily removed even without a knife. The lobes easily fall apart: they are covered with a thin silky skin which incloses the very sweet pulp and juice. You may like to call it the *Sweet* orange, or, as the Chinese say, *Honey* orange, or, better still, *Swatow*, as that is, I understand, the only place where it is raised." (*Farnham.*)

**22653 and 22654.**

From Grahamstown, Cape Colony, South Africa. Presented by Dr. S. Schönland, Albany Museum. Received April 11, 1908.

**22653. ANDROPOGON SORGHUM (L.) Brot.**

**Kafir.**

Red.

**22654. PASPALUM DILATATUM Poir.**

**Large water grass.**

**22655. QUERCUS SUBER L.**

**Cork oak.**

From Barcelona, Spain. Presented by Mr. Peter Campbell, the Nairn Linoleum Company, Kearny, N. J. Received April 18, 1908.

"These acorns were procured for the purpose of getting on hand a large stock of plants which can be used in experiments in establishing groves of cork oaks in this country as a possible commercial source of cork." (*Fischer.*) (See S. P. I. No. 21732 for other importation.)

**22656. ERAGROSTIS ABYSSINICA (Jacq.) Schrad.**

**Teff.**

From province of Harrar, Abyssinia, Africa. Presented by Mr. Robert P. Skinner, American consul-general, Marseille, France. Received April 11, 1908.

"This seed was produced in the region of Harrar at an altitude of 1,800 meters (5,905 feet). Teff is found throughout the province of Harrar at altitudes varying from 1,000 to 2,000 meters (3,280 feet to 6,561 feet), and is sown in various kinds of soil." (*Skinner.*) (See Nos. 17094 and 17095 for description.)



**22657 to 22661.**

From Bucharest, Roumania. Presented by Mr. Horace G. Knowles, American minister. Received April 2, 1908.

**22657 and 22658. CITRULLUS VULGARIS** Schrad. **Watermelon.**  
**22657.**

"Seed from a small, round, green, and thin-skinned melon about the size of an average grapefruit and as sweet as an orange. Its shape and size—just large enough for one person—and delicious flavor would make it immensely popular for serving at clubs, hotels, and restaurants." (*Knowles.*)

**22658.**

"Another variety of small melon." (*Knowles.*)

**22659 to 22661. CUCUMIS MELO** L. **Muskmelon.**

"These yellow melon seeds are from the most delicious muskmelons or cantaloupes I ever tasted, and the flavor is as far ahead of the *Rockyford* as the *Rockyford* is ahead of the *Jersey* cantaloupe. If these melons could be grown in the United States to the perfect state they attain here, they would make an invaluable addition to the fruits of our country." (*Knowles.*)

**22659.**

"Oblong, yellow melon. Thin skin, thick meat, and very sweet." (*Knowles.*)

**22660.**

"Large, round, yellow melon. Firm meat and deliciously sweet. Was fully ripe October 1 and was grown in light soil with plenty of sun." (*Knowles.*)

**22661.**

"Another variety of round, sweet, yellow melon." (*Knowles.*)

**22662. CHAYOTA EDULIS** Jacq. **Chayote.**

From New Orleans, La. Purchased from the J. Steckler Seed Company. Received April 22, 1908.

"Fruits of a smooth variety of chayote secured for distribution in the Southern States with the object of encouraging its culture for the market." (*Fischer.*)

**22663. RUBUS** sp. **Raspberry.**

From Shanghai, Kiangsu, China. Presented by Rev. J. M. W. Farnham, Chinese Tract Society. Received April 21, 1908.

"Plants I have found growing wild on the rocky and sandy mountain side, but in good soil, 2,000 feet above the sea." (*Farnham.*)

**22664 to 22669.**

From Paris, France. Presented by Prof. Y. Costantin, director, Museum of Natural History, rue Buffon 61. Received April 24, 1908.

**22664. ANDROPOGON HALEPENSIS** (L.) Brot.

**22665. PANICUM** sp. (?)

**22666. ABBHENATHERUM ELATIUS TUBEROSUS** (Gilib.) Skeels. (*AVENA TUBEROSA* Gilib.)

## 22664 to 22669—Continued.

22667. *ANTHEPHORA HERMAPHRODITA* (L.) Kuntze.22668. *PHLEUM PANICULATUM* Huds.22669. *PHLEUM ARENARIUM* L.22670. *CITRUS AURANTIUM* L.

Bigarade.

From Yokohama, Japan. Purchased from the Yokohama Nursery Company.  
Received April 24, 1908.

*Natsu mikan*. "The *Natsu mikan*, or 'summer orange,' is needed here as a successor of grapefruit at the season when there is nothing at all to take the place of that most refreshing fruit. Nothing equals the piercing, delicious acidity of *Natsu mikan*, which is decidedly a sour orange, not in the least like a lemon or a lime. Nothing is so refreshing on a hot summer morning as half of a *Natsu mikan*, and orangeade made of *Natsu mikan* is different from lemonade and much better.

"I remember gratefully the plates heaped with peeled sections of *Natsu mikan*, with the accompanying plates of sugar, that are offered one at private houses and at monasteries on Japanese summer days.

"It seems to me that the *Natsu mikan* is more often seen on fruit stands in Tokyo than formerly, and more often offered to the foreigner. The largest and finest, they say, come from Yamaguchi prefecture, at the foot of the Inland Sea.

"It is a great improvement on the Chinese pomelo, which is so often dry and tasteless, and I shall be glad when we can have it throughout the summer in America." (*Eliza R. Scidmore*.) (See No. 9268 for previous introduction and further description.)

## 22671 to 22696.

From Peking, Chihli, China. Received through Mr. Frank N. Meyer, agricultural explorer, April 20, 1908.

A collection of seeds and cuttings, as follows:

22671. *ABIES* sp.

Fir.

From Peisantse Temple, Wutaishan, Shansi, China. "(No. 256, Feb. 21, 1908.) A very tall growing fir, having small light green needles and light-colored, round, oblong cones. Found growing at 6,000 to 7,000 feet altitude. Chinese name *Tchien shu*." (*Meyer*.)

22672. *ABIES* sp.

From Tchailingtse Temple, Wutaishan, Shansi, China. "(No. 257, Feb. 25, 1908.) A medium-tall fir, having large, curved needles with a bluish bloom on them, and bearing long, tapering cones of a chocolate-brown color. Collected at an altitude between 8,000 and 9,000 feet. Chinese name *Tchien shu*." (*Meyer*.)

22673. *PINUS* sp.

From Tchenghaitse Temple, Wutaishan, Shansi, China. "(No. 258, Feb. 27, 1908.) A tall-growing pine, fit for forestry purposes. Chinese name *Sung shu*." (*Meyer*.)

22674. *LARIX* sp.

Larch.

From Tchailingtse Temple, Wutaishan, Shansi, China. "(No. 259, Feb. 25, 1908.) A larch of medium-sized height, growing on sterile mountain sides at very high elevations, 7,000 to 9,000 feet. Fit as a forestry tree

## 22671 to 22696—Continued.

in cold-wintered regions, as it grows on the northern exposed mountain slopes, where the snow does not melt until way into May. Chinese name *Tsai shu*." (Meyer.)

22675. SYRINGA VILLOSA Vahl. (?)

Lilac.

From Nansantse Temple, Wutaishan, Shansi, China. "(No. 269, Feb. 26, 1906.) A lilac found growing at high elevations, 7,000 to 8,000 feet. Said to bear large panicles of white flowers. Chinese name *Sar shu*." (Meyer.)

22676. CRATAEGUS sp.

Hawthorn.

From Tchengahitse Temple, Wutaishan, Shansi, China. "(No. 271, Feb. 27, 1908.) A hawthorn growing into a small tree having very large spines; even the trunk is covered with branched spines. Chinese name *Ling ching tse*." (Meyer.)

22677. RHODODENDRON sp.

From Shanfengko, Shansi, Wutaishan region, China. "(No. 273, Feb. 29, 1908.) A rhododendron of dense, shrubby growth, 4 to 5 feet high, growing on cliffs at about 5,000 feet altitude; apparently rare." (Meyer.)

22678. ULMUS sp.

Elm.

From Yento, Shansi, China. "(No. 275, Mar. 1, 1908.) A densely branched elm of shrubby growth, occasionally growing into a small tree; found growing on a sunny rocky mountain slope at about 4,000 feet altitude." (Meyer.)

22679. ABIES sp.

Fir.

From Talautse, Shansi, China. "(No. 277, Mar. 1, 1908.) A fir of a peculiar drooping appearance; found growing in an old temple court; only one specimen. Chinese name *Tchien shu*." (Meyer.)

22680. PINUS sp.

Pine.

From Tongdjautchang, Shansi, China. "(No. 278, Mar. 2, 1908.) A pine of very dense foliage and growing into a stately tree of imposing appearance; rare." (Meyer.)

22681. ROSA XANTHINA Lindl.

Rose.

From Tsintse, Shansi, China. "(No. 288, Mar. 9, 1908.) A wild yellow rose growing in large masses on dry and sterile mountain slopes. Will in the future prove to be the best grafting stock for high-class roses in sterile and arid locations; is used by the Chinese as a stock for roses in pots. Chinese name *Moo ro tse*." (Meyer.)

22682. ULMUS sp.

Elm.

From Tsintse, Shansi, China. "(No. 290, Mar. 9, 1908.) An elm of shrubby growth, which becomes a small tree when left alone; has small Prunus-like leaves, dense branches, ashy white bark, and very hard, tough wood, which is highly appreciated as construction material for cart wheels. Grows in dry, rocky situations. Very well fit, as a small tree, for rocky locations and Japanese gardens. Can easily be dwarfed. Probably a new species. Chinese name *Yeh yü shu*." (Meyer.)

22683. ZIZYPHUS SATIVA Gaertn.

Chinese date.

From Tsintse, Shansi, China. "(No. 293, Mar. 1, 1908.) A jujube (Chinese date) tree, bearing large, oblong fruits of shining red color,

## 22671 to 22696—Continued.

which are mainly used as a delicatessen, after having been soaked in weak Chinese spirits for a couple of months. They have a hard skin and are bad for the bowels. The trees can be planted close together (6 to 8 feet) and do not apparently attain great size. Chinese name *Hu ping tsao*, meaning bottle jujube. Is considered locally the best of the different varieties grown." (Meyer.)

22684. *ZIZYPHUS SATIVA* Gaertn.

Chinese date.

From Tsintse, Shansi, China. "(No. 294, Mar. 10, 1908.) A jujube (Chinese date) having medium-sized, red-colored, oblong fruits which taper toward the end. The trees grow to a large size, and when old have hardly any side branches on the main limbs. Chinese name *Mu shing hong tsao*; might be called 'pointed jujube.'" (Meyer.)

22685. *ZIZYPHUS SATIVA* Gaertn.

Chinese date.

From Tsintse, Shansi, China. "(No. 295, Mar. 10, 1908.) A jujube (Chinese date) said to have red oblong fruits, which crack easily when falling down. Trees medium sized. Chinese name *Tsui ling tsao*, meaning 'fragile jujube.' Said to be a very poor keeper." (Meyer.)

22686. *ZIZYPHUS SATIVA* Gaertn.

Chinese date.

From Tsintse, Shansi, China. "(No. 296, Mar. 10, 1908.) A jujube (Chinese date) tree which grows very large and spreads out very much, bearing small fruits of oblong shape, red color, and of a melting, sweet taste; can not be kept long. Chinese name *Lang tsao*. Might be called 'melting jujube.'" (Meyer.)

22687. *SYRINGA* SP.

Lilac.

From Tsintse, Shansi, China. "(No. 297, Mar. 10, 1908.) A very floriferous lilac, growing often as a little tree; found on dry mountain slopes. Chinese name *Shau ting hsien*." (Meyer.)

22688. *AVENA NUDA INERMIS* (Koern.) Asch. & Graeb.

Oat.

From Tchailingtse Temple, Wutaishan, Shansi, China. "(No. 927a, Feb. 25, 1908.) A hull-less oat found growing at 8,000 to 9,000 feet elevation. May be of use in the elevated sections of the Rocky Mountain regions. Chinese name *Yoh ma*." (Meyer.)

22689. *HORDEUM DISTICHON NUDUM* L.

Hull-less barley.

From Tchailingtse Temple, Wutaishan, Shansi, China. "(No. 928a, Feb. 25, 1908.) A hull-less barley found growing at 8,000 to 9,000 feet elevation. Is very rare in this region and might have been brought in from Mongolia by the Mongolian pilgrims, who visit the Wutaishan region every year by the thousands. May be of great value in the short-summered section of the United States. Chinese name *Tsao ma*." (Meyer.)

22690. *CANNABIS SATIVA* L.

Hemp.

From Tongchör, Shansi, Kwohsien District, China. "(No. 932a, Mar. 4, 1908.) Grown in mountain valleys; considered to be the best variety of hemp of the Shansi Province, and sold in all of the towns and cities for string and rope manufacture. Chinese name *Shan ma tse*." (Meyer.)

22691. *PINUS BUNGEANA* Zucc.

Pine.

From Taiyuanfu, Shansi, China. "(No. 934a, Mar. 13, 1908.) Sold on the streets as a delicatessen, and said to come from the mountains of

## 22671 to 22696—Continued.

northern Honan. Chinese name *Sung tse*. Apparently the same as No. 797a (S. P. I. No. 21997)." (Meyer.)

22692. *ROSA* sp.

Rose.

From Nausantse Temple, Wutaishan, Shansi, China. "(No. 935a, Feb. 28, 1908.) A tall-growing, bushy, red-flowered rose; found in thickets on the mountain slopes. May be of use as a grafting stock for standard roses. Chinese name *Yeh hong mae kwei hua*." (Meyer.)

22693. *ROSA XANTHINA* Lindl.

Rose.

From Tsintse, Shansi, China. "(No. 936a, Mar. 9, 1908.) A wild yellow rose, called *Moo ro tse* by the Chinese. For further remarks see No. 288 (S. P. I. No. 22681)." (Meyer.)

22694. *BRASSICA OLERACEA* L.

Cabbage.

From Wutaishan, Shansi, China. "(No. 937a, Feb. 28, 1908.) A cabbage, flat like our own western cabbages, but growing on a high stem. Can be kept frozen hard throughout the winter, and, after having been washed with boiling water, can be served with oil and vinegar as an excellent salad, tasting quite sweet. Grows at 4,000 to 7,000 feet altitude. Fit for the northern and the alpine regions of the United States. Chinese name *Whe tse pai tsai*." (Meyer.)

22695. *COTONEASTER INTEGERRIMA* Medic.

From Nausantse Temple, Wutaishan, Shansi, China. "(No. 938a, Feb. 26, 1908.) A shrub growing in shady locations on the mountain slopes; bears black berries; height 3 to 10 feet, according to amount of light and exposure. Hard wooded. Chinese name *Shan he tsao*." (Meyer.)

22696. *SYRINGA* sp.

Lilac.

From mountains near Tsintse, Shansi, China. "(No. 944a, Mar. 10, 1908.) A very floriferous lilac found on dry mountain slopes; grows often to be a little tree. Cuttings sent under No. 297 (S. P. I. No. 22687). Chinese name *Shau ting hsien*." (Meyer.)

## 22704 to 22714.

From Saigon, Cochin China. Presented by Mr. Jacob E. Conner, American consul. Received April 21, 1908.

22704. *SAGUERUS PINNATUS* Wurm.

22705. *ONCOSPERMA* sp.

22706. *ARCHONTOPHOENIX ALEXANDRAE* (F. Muell.) Wend. & Drude.

22707. *RHAPIS FLABELLIFORMIS* L'Herit.

22708. *DYPSIS PINNATIFRONS* Mart. (?)

22709. *SABAL* sp.

22710. *CARYOTA MITIS* Lour. (?)

22711. *LICUALA PELTATA* Roxb. (?)

22712. *ARECA OLERACEA* Jacq.

22713. *ELAEIS GUINEENSIS* Jacq.

22714. *GLYCINE HISPIDA* (Moench) Maxim.

Soy bean.

Yellow.



**22715 to 22730. VIGNA UNGUICULATA (L.) Walp. Cowpea.**

From Clemson College, S. C. Presented by Prof. C. L. Newman. Received April, 1908.

Professor Newman made the hybrids indicated in the following list. The selections were also made by him. Descriptive notes by Mr. H. T. Nielsen.

**22715.**

(Newman's No. 2.) Evidently a hybrid between *Blackeye* and *Taylor*; seed fully as large as *Taylor*.

**22716. *Blackeye* × *Extra Early Blackeye*.**

(Newman's No. 4.) Probably *Blackeye* × *Black*. Looks like *Sport*, No. 17427, and *Watson's Hybrid*, No. 17425.

**22717. *California Blackeye* × *Taylor*.**

(Newman's No. 9.) Looks like No. 22715, but seed is smaller.

**22718. *Blackeye* × *Black Bunch*.**

(Newman's No. 12.) Not distinguishable from No. 22716.

**22719. *Blackeye* × *Black Bunch*.**

(Newman's No. 10.) Apparently identical with Nos. 22716 and 22718.

**22720. *Blackeye* × *Black*.**

(Newman's No. 13.) Looks like *Holstein*, No. 17327.

**22721. *Blackeye* × *Extra Early Blackeye*.**

(Newman's No. 16.) Appears identical with Nos. 22716, 22718, and 22719.

**22722. Red.**

(Newman's No. 26.) A selection from *Clay*.

**22723. *Clay*.**

(Newman's No. 27.) A selection from *Clay*.

**22724. *Clay*.**

(Newman's No. 28.) A self-seeding strain.

**22725. *Holstein*.**

(Newman's No. 43.) Seed exactly like No. 22720.

**22726. *Taylor* × *Large White Spot*.**

(Newman's No. 50.) Looks exactly like No. 22717.

**22727. *Taylor* × *Browneye*.**

(Newman's No. 51.) Has but very slight markings of the *Taylor* variety.

**22728. *Warren's New Hybrid* (?).**

(Newman's No. 53.) Probably a hybrid between *Warren's New Hybrid* and one of the *Lady* varieties; is similar in appearance to *Southdown*, No. 17339, but the seed is a little smaller.

**22729. *Warren's Extra Early* × *Sugar Crowder*.**

(Newman's No. 57.) This is probably the same as our No. 17422, which is also a hybrid between these two.

**22730. *Whippoorwill* × *Lady*.**

(Newman's No. 64.) Apparently identical with *Guernsey*, No. 17408.



**22731 to 22737.**

From Nimboli, Post Mangrul-Dastgir, District Amraoti, Berars, India.  
Presented by Mr. Anant Sitaram Dhavale, through Mr. C. V. Piper.  
Received April 24, 1908.

The following seeds:

**22731.** CAJAN INDICUM Spreng.

"*Tur.* A legume food crop. The dry fodder is generally fed to cattle."  
(*Dhavale.*)

**22732.** INDIGOFERA GLANDULOSA Wendl.

"*Divale.* An extraordinary leguminous plant; grows on good soil and shows the greatest number of root nodules. Used only for green manure."  
(*Dhavale.*)

**22733.** SESBAN BISPINOSA (Jacq.) Steud. (AESCHYNOMENE BISPINOSA Jacq.)

"*Shevari.* A legume forage crop; grown under irrigation; very nourishing to sheep and bullocks when fed in green state." (*Dhavale.*)

**22734.** (Undetermined.)

"*Shevari.* A legume forage crop; grown under irrigation; very nourishing; is fed to bullocks in green state." (*Dhavale.*)

**22735.** SESBAN AEGYPTIACA Pers. (?)

"*Savara.* A legume forage crop; is fed to bullocks and sheep in green state. Grows wild." (*Dhavale.*)

**22736.** CICER ARIETINUM L.

"*Harbhara.* A legume food crop; is fed to horses in green state, and the seed also when dry. Horses love it most." (*Dhavale.*)

**22737.** PSORALEA CORYLIFOLIA L.

"*Bavachi.* A legume plant; is fed to buffaloes; very rarely bears root nodules." (*Dhavale.*)

**22738. PISUM SATIVUM L.**

**Pea.**

From Boston, Mass. Received through R. & J. Farquhar & Co., April 27, 1908.

"To be used for breeding purposes." (*Young.*)

**22739. CUCURBITA PEPO L.**

**Squash.**

From Shanghai, Kiangsu, China. Presented by Rev. J. M. W. Farnham, Chinese Tract Society. Received April 17, 1908.

"A fine winter squash (Chinese)." (*Farnham.*)

**22740 and 22741. COLOCASIA spp.**

**Taro.**

From Paramaribo, Dutch Guiana. Presented by Dr. C. J. J. Van Hall, through Mr. O. W. Barrett. Received April 28, 1908.

The following tubers:

**22740.**

"*Hindoe-taya.* This has been imported by British Indian coolies."  
(*Van Hall.*)

**22740 and 22741—Continued.****22741.***"Agoe-taya.* (Agoe=swine.) Is a very coarse variety." (*Van Hall.*)*"These two taya varieties are the only new ones I found in this colony."* (*Van Hall.*)**22742. TOLUIFERA PEREIRAE (Klotz) Baill.**

From San Salvador. Presented by Mr. José C. Zeledon, Botica Francesa, San José de Costa Rica. Received April 28, 1908.

*"The tree from which the Peruvian balsam is obtained. Since the plant has so much economic importance commercially, it may prove interesting."* (*Zeledon.*)**22743. CITRULLUS VULGARIS Schrad.****Watermelon.**

From Panama. Presented by Miss M. M. Childs, of the United States Forest Service. Received April 29, 1908.

*"This melon is of average size, lemon-yellow inside, and its flavor somewhat resembles the hickory nut. The rind is very hard and white. The pulp is much softer than the ordinary watermelon, and its juice is used to flavor ice cream. Considered very fine by Americans at Panama, and called by them Panamanian watermelon."* (*Childs.*)**22744. CANANGA ODORATA (Lam.) Hook. f. & Thoms. Ilang ilang.**

From Manila, P. I. Presented by Mr. H. N. Whitford, chief, Division of Forest Investigations, Bureau of Forestry, Department of the Interior. Received April 21, 1908.

*"The ilang ilang grows here (Saigon, Cochin China) in some profusion, but it has not yet been cultivated to any considerable commercial extent, as it might be, for its rare perfume. It is a handsome tree, symmetrical and stately, reaching a height of 50 feet or more. It has a smooth, hard, grayish bark resembling that of the beech. It flowers in April and May, or perhaps even earlier. The long, strap-like, yellowish petals give out a rich, spicy fragrance, somewhat resembling that of cinnamon and very pronounced just after a rain. It grows very well in this hard, black soil of Cochin China, but I am unable to say just what soil it prefers."* (*Conner.*) (For further description see S. P. I. Nos. 3793, 3897, and 20908.)**22745. ARALIA RACEMOSA L.****Spikenard.**

From North Clarendon, Vt. Presented by Mr. James Barrett. Received April 29, 1908.

*"Natural habitat is a partly shady place where it can have leaf mold to feed on."* (*Barrett.*) (For further description see S. P. I. No. 21658.)**22746 to 22753.**

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Department of Agriculture. Received April 27, 1908.

Seed of each of the following:

**22746. VIGNA SESQUIPEDALIS (L.) W. F. Wight.***"Speckled, reddish brown seeds, similar to No. 21562, but seeds are shorter."* (*Nielsen.*)

**22746 to 22753—Continued.**

**22747.** *VIGNA SESQUIPEDALIS* (L.) W. F. Wight.

“Reddish brown seeds, lighter in color than No. 22746.” (Nielsen.)

**22748.** *CLITORIA HETEROPHYLLA* Lam.

**22749 to 22753.** *CLITORIA TERNATEA* L.

**22749.** Fl. *alba*.

**22752.** Fl. *coerulea*.

**22750.** Fl. *atrocoerulea*.

**22753.** Fl. *violacea*.

**22751.** Fl. *Bryni*.

**22754. POA EAQUATORIENSIS Hack. (?)**

From Ecuador. Presented by Mr. L. Ordonez, 537 Harrison street, San Francisco, Cal., through Mr. C. V. Piper. Received April 20, 1908.

“This is considered one of the best native grasses of Ecuador; grows very well on light soil with irrigation, but thrives also on dry land.” (Ordonez.)

**22755. BRASSICA RAPA L.****Turnip.**

From Helsingfors, Finland. Purchased from Mr. V. F. Sagulin. Received April 29, 1908.

*Petrowski.* “We grew this turnip last season at the stations at Sitka, Rampart, and Copper Valley, and at none of these places was this variety of turnip attacked by the pest (root maggot), although other varieties growing alongside were badly affected.” (*Prof. C. C. Georgeson, Alaska Agricultural Experiment Station.*) (For other introduction see No. 19554.)

**22756 and 22757. BRASSICA RAPA L.****Turnip.**

From Helsingfors, Finland. Presented by Mr. V. F. Sagulin. Received April 25, 1908.

**22756.** *Flat Round Yellow Finnish.*

**22757.** *Yellow Round Red-Top.*

**22758 to 22761.**

From India. Presented by T. F. Main, esq., Deputy Director of Agriculture, Poona, Bombay, India. Received April 28, 1908.

From Dharwar District:

**22758.** *VIGNA CATJANG* (Burm.) Walp.

From Surat District:

**22759.** *VIGNA CATJANG* (Burm.) Walp.

Similar in appearance to S. P. I. No. 21292.

**22760.** *VIGNA CATJANG* (Burm.) Walp.

**22761.** *PHASEOLUS ACONITIFOLIUS* Jacq.

**Moth bean.****22762 and 22763. OLEA EUROPÆA L.****Olive.**

From Sfax, Tunis. Purchased from Chatel & Jacquemart. Received April 29, 1908.

*Chemlali.* Truncheons and seed. (See S. P. I. No. 13567 for description.)

**22764. ANDROPOGON SERICEUS R. Br.**

From Pretoria, Transvaal, South Africa. Presented by Prof. J. Burt Davy, government agrostologist and botanist, Transvaal Department of Agriculture. Received May 1, 1908.

"*New South Wales Bluegrass*. The seed is this year's crop grown in the Transvaal." (Davy.)

**22765 to 22770. COLOCASIA ESCULENTA (L.) Schott. Taro.**

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Department of Agriculture, through Mr. O. W. Barrett. Received May 1, 1908.

The following tubers. The nomenclature is mainly that of Hasskarl, Cat. Pl. Hort. Bogor., 55. The Malay names are also quoted.

**22765.** Variety *polyrrhiza* Hsskl., subvariety *viridis*. "Kimpoele idjoh."

**22766.** Variety *monorrhiza* Hsskl., subvariety *rubri-nervis*. "Talus romah banteng."

**22767.** Variety *monorrhiza* Hsskl., subvariety *rubra*. "Talus lampoeng-merah."

**22768.** Variety *monorrhiza* Hsskl., subvariety *rubra*. "Talus bajabon."

**22769.** Variety *monorrhiza* Hsskl., subvariety "Talus goenoeng tjisalak."

**22770.** Variety *monorrhiza* Hsskl., subvariety "Talus kekes."

**22771. MUSA PARADISIACA L. Banana.**

From Port of Spain, Trinidad, British West Indies. Presented by Dr. E. André, through Mr. O. W. Barrett. Received May 1, 1908.

"This banana is of the small kind known here as *Fig*." (André.)

"A small ornamental banana which has small fruits and numerous seeds." (Barrett.)

**22772 to 22774.**

From Port of Spain, Trinidad, British West Indies. Presented by Dr. E. André. Received May 1, 1908.

**22772.** *TOUNATEA SIMPLEX* (Vahl.) Taub.

"A small, smooth-barked tree, branching like an elm. Leaves short petioled, alternate, 3 inches long, smooth; veins on under surface yellowish. Flowers borne in three-flowered racemes, in axils of leaves, at the tips of the branches. Corolla  $1\frac{1}{2}$  inches long, pale yellow. Wood hard and fine grained; used for lathe work." (H. Pittier.)

**22773.** *GLIRICIDIA MACULATA* H. B. & K.

"An unarmed tree, with alternate, compound leaves. Flowers resembling those of black locust in size, but pink." (H. B. & K.)

**22774.** *CYNOMETRA TRINITENSIS* Oliv.

"A small tree of the senna family. Leaves alternate, compound, of two obliquely oblong leaflets, 3 to 4 inches long. Flowers in small, many-flowered, axillary, sessile clusters. Fruit a one-seeded, globular legume, 1 to 2 inches in diameter." (Oliv.)

**22775 to 22778.**

From Asmara, Eritrea, North Africa. Presented by the director, Colonial Agricultural Experiment Station. Received April 29, 1908.

**22775.** *JUNIPERUS PROCERA* Hochst.

## 22775 to 22778—Continued.

"A handsome tree, growing 25 to 40 meters in central Africa, its native habitat, and its wood is useful in the manufacture of various small articles." (*Wight*.)

22776. *OXYTENANTHERA ABYSSINICA* (Rich.) Munro.

22777. *ACACIA LAHAI* Steud. & Hochst.

22778. *ALBIZZIA ANTHELIMINTICA* (A. Rich.) Brongn.

## 22779. CITRUS sp.

From Algiers, Algeria. Presented by Dr. L. Trabut, government botanist.

Received April 27, 1908.

"*Zenboua*. Large tree; spiny; large leaves with a short petiole, slightly winged. Fruit large, depressed, terminated by a flat protuberance. It has been propagated at El-Kantara, in the oasis, where it attains large dimensions. It is very nearly related to the 'Pomme de Adam' and the rough lemon of Florida. Resists gummosis at El-Kantara, near Biskra. Would constitute a good grafting stock for the oasis." (*Trabut*.)

## 22781 to 22783.

From Georgetown, British Guiana. Presented by Mr. A. W. Bartlett, government botanist, Botanic Gardens, through Mr. C. V. Piper. Received May 1, 1908.

The following seeds:

22781. *SOPHORA TOMENTOSA* L.

A small tree, with large, odd-pinnate leaves. Flowers yellow, in stout racemes, about 6 inches long. Distribution, tropical shores throughout the world. (*Extract from H. Trimen, Handb. Fl. Ceyl.*)

22782. *VINCA ROSEA* L.

Madagascar periwinkle.

"Tender, erect subshrub with oblong leaves. Flowers rosy or white, often with a pink eye; produced all summer. Sometimes called Cape periwinkle and *Old Maid*." (*Bailey, Cycl. Amer. Hort.*)

22783. *CAMPOMANESIA CERASOIDES* (Cambess.) A. Gray.

"A shrub with opposite, elliptical, petioled leaves, bearing white flowers in the axils. Fruit the size of a cherry. A native of Brazil." (*Cambessedes*.)

22784. *MEDICAGO SATIVA* L.

**Alfalfa.**

From Alicante, Spain. Procured through the consular agent at Alicante, by Mr. R. L. Sprague, American consul, Gibraltar, Spain. Received May 4, 1908.

"*Elche*. This variety, called in Spanish the 'broad-leaved of Elche,' was called to my attention by Doctor Trabut, of Algiers. It is supposed by him to be a distinct strain of alfalfa which is grown quite generally near the town of Elche, Spain." (*Fairchild*.)

## 22785 and 22786.

From Belize, British Honduras. Presented by Mr. E. J. F. Campbell, superintendent, Botanic Station. Received April 30, 1908.

**22785 and 22786—Continued.**

22785. (Undetermined.)

"Indigenous velvet bean." (*Campbell*.)

22786. (Undetermined.)

"Indigenous handsome blue-flowered legume." (*Campbell*.)**22787. ANDROPOGON SORGHUM (L.) Brot.****Sorgo.**

From Hoxie, Kans. Presented by Mr. M. G. Blackman, through Mr. Carleton R. Ball. Received May 1, 1908.

"*Club Head*. A sorgo or sweet sorghum not identical with any known variety; possibly a hybrid between *Amber* and *Orange*—at any rate related to *Amber*." (*Ball*.)

**22788 to 22790. MEDICAGO SATIVA L.****Alfalfa.**

From Tashkend, Turkestan. Purchased from Mr. H. W. Duerrschmidt. Received May 4, 1908.

*Turkestan.*

22788. From the district of Aulicata, severe winter, average summer.

22789. From Tschimkent, average summer, not cold winter.

22790. From Khiva, hot summer, mild winter.

**22791 to 22793.**

From Manila, P. I. Presented by Mr. H. N. Whitford, chief, Division of Forest Investigations, Bureau of Forestry, Department of the Interior. Received May 4, 1908.

22791. CHRYSOPHYLLUM sp. (?)

"This is a rare species, growing in the forests, with a fruit about the size of a Japanese persimmon. It has a slightly agreeable taste." (*Whitford*.)

22792. STERCVLIA FOETIDA L.

"*Calumpang*. An oil is made from these seeds." (*Whitford*.) (For further description see No. 17139.)

22793. PITHECOLOBIUM ACLE (Blanco) Vidal.

"*Acle* is one of our valuable timber trees. In quality it is the nearest wood we have to walnut." (*Whitford*.)

**22794 to 22796.**

From Saigon, Cochín China. Presented by Mr. J. E. Conner, American consul. Received May 4, 1908.

22794. IRVINGIA OLIVERI Pierre.

22795. ANONA SQUAMOSA L. (For description see No. 9024.)

22796. ANONA BETICULATA L. (For description see No. 5210.)

**22797 to 22809.**

From Chihuahua, Mexico. Presented by Dr. Edward Palmer. Received May 2, 1908.

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## 22797 to 22809—Continued.

The following seeds, with Mexican names:

22797 to 22802. PHASEOLUS COCCINEUS L. Scarlet runner.

"*Frijol patol*. There are six different colored beans under this name. Cultivation may reveal some new novelties and it may prove a fine ornamental; it is much grown here to run over arbors. The green pods are eaten." (*Palmer*.)

22797. White.

22798. Black.

22799. Lavender, mottled with black.

22800. Mauve, mottled with lavender.

22801. Mauve, mottled with black.

22802. Black, mottled with mauve and gray.

22803. CAPSICUM FRUTESCENS L.

Pepper.

"*Chile quipin*. From the mountains. It is locally much used, especially in vinegar." (*Palmer*.)

22804 to 22809. CAPSICUM ANNUUM L.

Pepper.

22804. "*Chile tapatio*." Cultivated in Guadalajara, Jalisco, Mexico.

22805. "*Chile negro*." Cultivated in Julimez, Chihuahua, Mexico.

22806. "*Chile mirosoe*." Cultivated in Aguascalientes, Mexico.

22807. "*Chile colorado*." Cultivated in Chihuahua City, Mexico.

22808. "*Chile bolito*." Cultivated in Sta. Rosalia, Chihuahua, Mexico.

22809. "*Chile pasilla*." Cultivated in San Pablo and Meoqui, Chihuahua, Mexico.

## 22810. CUCURBITA PEPO L.

Pumpkin.

From Jerusalem, Palestine. Presented by Mr. John E. Dinsmore, American Colony, through Mr. Thomas R. Wallace, American consul. Received April 29, 1908.

"The Arabic name is *Kusa*. It is probably a variety of vegetable marrow and is prepared for food in several ways: It may be boiled, fried, stewed, baked, etc. The most common way of cooking it in the Orient is to scoop out the inside and to stuff it with rice, meat, and butter, which is highly seasoned, and then boil it until well done.

"Plant the seeds in hills 2 inches deep, two or three in each hill, in a very light, well-worked loam. Until the plants appear above ground, care must be taken that the ground does not become caked, as otherwise the plants will be destroyed. In Palestine they grow without any rain whatsoever, but there are heavy dews." (*Dinsmore*.)

## 22811 to 22818.

From Saigon, Cochinchina. Presented by Mr. J. E. Conner, American consul. Received May 6, 1908.

The following tubers:

22811. CALADIUM BICOLOR (Ait.) Vent.

22812. AMORPHOPHALLUS CAMPANULATUS (Roxb.) Blume.

**22811 to 22818—Continued.**

**22813.** *PINELLIA COCHINCHINENSE* (Blume) W. F. Wight. (*ARISAEMA COCHINCHINENSE* Blume.)

**22814.** *COLOCASIA INDICA* (Lour.) Kunth.

**22815.** *XANTHOSOMA SAGITTAEFOLIUM* (L.) Schott.

**22816.** *ALOCASIA MACROBRHIZA* (L.) Schott.

**22817.** *ARUM* sp. (?)

**22818.** *COLOCASIA ESCULENTA* (L.) Schott.

"As many as seven species of the *Colocasia* are found native in Cochin China, two of which are edible. Of these two, the *Colocasia indica* and the *Colocasia esculenta*, known to the natives as *Khoia mon sen* and *Khoia mon sap*, respectively, the latter, which is by far the best species for food as well as in yield, includes two additional varieties, known as *Mon ding* and *Mon mink tia*.

"In addition to these edible species, there are as many as four ornamental varieties, and one, the *Pinellia cochinchinense*, is a medicinal herb; all flourish in a wild state.

"The cultivation of the edible species should begin in March or April. They require a marshy soil and are planted in ridges like sweet potatoes, about 30 cm. apart, with about twice that space between the ridges. Young offshoots from the bottom of the plants are also used for plant propagation, and the time necessary to mature is six months.

"The tubers are eaten boiled, the same as the sweet potato, and a kind of flour is also made from them. The price of a picul of 60 kilograms is 1 piaster 80—less than 7 cents per pound." (*Conner*.)

**22819. DENDROCALAMUS STRICTUS (Roxb.) Nees. Bamboo.**

From India. Presented by Mr. Jean Houzeau de Lehaie, Saint Symphorien, Belgium, through Lady Brandis, 21 Kaiserstrasse, Bonn, Germany. Received May 6, 1908.

See S. P. I. No. 21548 for description.

**22820 to 22824. ANDROPOGON SORGHUM (L.) Brot.**

From Entebbe, Uganda. Presented by Mr. M. T. Dawe, officer in charge, Botanical, Forestry, and Scientific Department. Received April 6, 1908.

Seed of the following sorghums; varietal descriptions by Mr. Carleton R. Ball:

**22820.**

Apparently a sweet sorghum from discoloration of pith; seed and glumes similar in shape and size to *Sumac sorgo*, but branches longer and spreading. Seeds remarkably small.

**22821.**

Similar to No. 22820; pith also discolored; head much longer; seeds larger.

**22822.**

Large head; long spreading branches; glumes short, black, shining; seeds flattened, somewhat pointed at tip, orange-red or paler to nearly dirty white.

**22823.**

Similar to No. 22822, but head and branches smaller; seeds dirty white or with pinkish tinge.

**22820 to 22824—Continued.****22824.**

Similar to No. 22823, but branches heavier; head more compact; seeds nearly white.

All except No. 22820 are closely related in general character, varying chiefly in color of seed and size of head. The first differs by much smaller and blunter seeds.

**22825. ULMUS PUMILA L.****Elm.**

From Fengtai, near Peking, Chihli, China. Received through Mr. Frank N. Meyer, agricultural explorer, May 9, 1908.

"(No. 664, Mar. 26, 1908.) Var. *pendula*. A new form of a weeping elm; said to be the only tree of its kind in existence. Growing on a grave at Fengtai. Well fit as a cemetery tree in the semiarid regions of the United States. Chinese name *Lung tsao yu shu*, meaning dragon's claw elm, on account of the rather gnarled branches." (*Meyer*.)

**22826. CITRUS AURANTIUM SINENSIS L.****Sweet orange.**

From Kabylia, Algeria. Presented by Dr. L. Trabut, government botanist, Algiers, Algeria. Received May 11, 1908.

"Garden orange. Matures last of April to May. Fruit very sweet." (*Trabut*.)

**22827. CACARA EROSA (L.) Kuntze.**

From Porto Rico. Presented by Mr. William Allan, 136 W. 79th street, New York, through Mr. C. V. Piper. Received May 11, 1908.

"Beans found growing wild over our place in Porto Rico; the pods are more the shape of cowpeas, but not over 4 inches long, and contain a brown bean. The plant is bushy, standing about 18 to 24 inches high. It does not run and seems to make only one growth per year; it has a large, bulbous root, similar to a ruta-baga turnip, some of them I have seen plowed up measuring 6 to 8 inches in diameter; very starchy when cut open." (*Allan*.) (For further description see S. P. I. No. 22971.)

**22828 to 22832. DIOSCOREA spp.****Yam.**

From Sibpur, Calcutta, India. Presented by Mr. W. W. Smith, officiating superintendent, Royal Botanic Garden, through Mr. O. W. Barrett. Received May 11, 1908.

The following tubers, vernacular names in italic:

**22828. DIOSCOREA ALATA L.***Kham alu.***22829. DIOSCOREA RUBELLA Roxb.***Guraniya alu.***22830. DIOSCOREA PURPUREA Roxb.***Rakto guraniya alu.***22831. DIOSCOREA FASCICULATA Roxb.***Susni alu.*

"The above are cultivated generally, and edible when cooked." (*Smith*.)

**22832. DIOSCOREA ANGUINA Roxb.***Kukur alu.*

"This variety is wild; not eaten." (*Smith*.)

**22833. PANICUM MAXIMUM Jacq.**

From Pretoria, Transvaal, South Africa. Presented by Mr. J. Burt Davy, government agrostologist and botanist, Transvaal Department of Agriculture. Received May 11, 1908.

"*Bush-Buffel* grass, one of our best perennial pasture and hay grasses. In the 'Flora Capensis,' Stapf refers this to *Panicum maximum*, but cultivated side by side with the latter for several years at my experiment station it shows marked and constant differences; these may not prove to be other than varietal, but are sufficient for cultural purposes. Our Buffel grass is finer in texture than Guinea grass and is not so tropical in its requirements. It is found in very dry country at an altitude of about 2,500 to 2,600 feet; it is somewhat sensitive to frost, the tops dying but the roots not being killed in winter. It may prove a useful grass on light soils in the Southern States and is worth trial also in Arizona and southern California. This is the principal feed of stock which trek down to the 'Winter's veld' in winter, and it is said to have great fattening properties even when dry. Seed does not ripen evenly." (Davy.)

**22834. MEDICAGO SATIVA L.****Alfalfa.**

From near San Pedro, near Pacasmayo, Peru. Purchased in Peru by Wessel, Duval & Co., New York, N. Y. Secured from them by Mr. C. J. Brand. Received May 12, 1908.

*Andean.* "This alfalfa was secured through the same firm as was the Peruvian alfalfa, S. P. I. No. 9303, described in Bulletin 118, Bureau of Plant Industry." (Brand.)

"The parties in Peru who secured the seed state: 'The price to-day (June 9) is about 75 soles per 100 pounds Spanish, on board, Pacasmayo, packed in double bags. San Pedro seed is considered the best on the coast, but in our opinion that harvested in other parts of the province is just as good.

"Alfalfa is generally sown (when there is water) in the months of June to September (the winter months), when the pasture grows highest, for in the summer months the alfalfa does not flourish and remains small. In general, the alfalfa fields last for four or more years, being cut down every 45 days. Alfalfa is sown in all kinds of earth, except in that containing saltpeter, which kills the plant. (Loose, sandy soil with moist subsoil is the best.)

"As to harvesting the seed, this is uncertain. Very often the alfalfa fields flower in the best way, but with one or two nights of low temperature, all the flowers fall off and consequently the harvest of seed is bad. It is not possible to state the quantity of seed which can be gathered in this province in one year, for this depends on the abundance of alfalfa and the number of fields which are left for seed. The older the alfalfa fields the better seed they yield. During this year many of the fields which were left for seed have failed, for the reasons given above: still we consider that about 2,000 quintals of seed will have been gathered.'" (Wessel, Duval & Co.)

**22835 to 22860. PHOENIX DACTYLIFERA L.****Date.**

From the Persian Gulf region. Received through Mr. William C. Magelssen, American consul, Bagdad, Turkey, May 14, 1908.

22835. *Maktum* (Asfar).

22838. *Khastawi*.

22836. *Maktum* (Abmar).

22839. *Halawi*.

22837. *Ascherasi*.

22840. *Khadrawi*.

## 22835 to 22860—Continued.

22841. <i>Sukeri</i> .	22851. <i>Shitwi Asfar</i> .
22842. <i>Shukker Modabel</i> .	22852. <i>Duggal</i> (Omkom-el Ahmar).
22843. <i>Barban</i> .	22853. <i>Duggal</i> (Sultani).
22844. <i>Beneffshi</i> .	22854. <i>Duggal</i> (Shomaieh).
22845. <i>Hussein Effendi</i> .	22855. <i>Duggal</i> (Hilwa).
22846. <i>Taberzel</i>	22856. <i>Aschcrasi</i> (Male).
22847. <i>Zehdi</i> .	22857. <i>Khastawi</i> (Male).
22848. <i>Maiah</i> .	22858. <i>Barban</i> (Male).
22849. <i>Jozi</i> .	22859. <i>Zehdi</i> (Male).
22850. <i>Shukker</i> .	22860. <i>Khadrawi</i> (Male).

## 22861 to 22873.

From Peking, Chihli, China. Received through Mr. Frank N. Meyer, agricultural explorer, at the Plant Introduction Garden, Chico, Cal., May 4, 1908.

The following seeds and cuttings:

22861. *POPULUS* sp.

Poplar.

From Wutaishan, Shansi, China. "(No. 260, Feb. 27, 1908.) A white-barked poplar, standing apparently between *P. alba tomentosa* (Carr.) Wesm. and *P. balsamifera suaveolens* (Fisch.) Wesm. Growing at 5,000 to 8,000 feet elevation. Used extensively for sand and stone binding, and planted at the mouth of ravines so as to prevent the mountain torrents carrying their debris into the cultivated lands of the valleys. Of use to us for the same purpose, and as a cheerful avenue tree for winter effects. Chinese name *Ching yang shu*, meaning green poplar, on account of the bark being very green as long as the tree is young." (Meyer.)

## 22862. (Undetermined.)

From Tchaillngtse Temple, Wutaishan, Shansi, China. "(No. 265, Feb. 25, 1908.) A shrub resembling a *Lonicera*, but spiny on the young shoots and of a very open growth. Found in shady, sandy spots in a larch forest at about 8,000 feet elevation. Chinese name *Tcheng pee*." (Meyer.)

22863. *PHILADELPHUS* sp. (?)

From Tchaillngtse Temple, Wutaishan, Shansi, China. "(No. 266, Feb. 25, 1908.) A low shrub growing in open places in a larch forest at about 8,000 feet elevation. Chinese name *Lu tao mo*." (Meyer.)

22864. *HYDRANGEA* sp.

From Tchenghaitse Temple, Wutaishan, Shansi, China. "(No. 267, Feb. 27, 1908.) Probably *Hydrangea vestita pubescens* Maxim.; found growing in dense shade, as the borders of a pine-tree plantation. Apparently the same as No. 187 (S. P. I. No. 21925). Chinese name *Mar pa tse*." (Meyer.)

22865. *VIBURNUM* sp.

From Tchenghaitse Temple, Wutaishan, Shansi, China. "(No. 268, Feb. 27, 1908.) Found growing in thickets on mountain slopes at high altitudes." (Meyer.)



## 22861 to 22873—Continued.

22866. (Undetermined.)

Sedge.

From near Taichou, Shansi, China. "(No. 279, Mar. 2, 1908.) A sedge growing on strongly alkaline lands of a light sandy nature. Seems to be able to stand any amount of drought." (Meyer.)

22867. TAMARIX sp.

From near Taiyuanfu, Shansi, China. "(No. 287, Mar. 9, 1908.) A Tamarix growing on sandy and strongly alkaline soils; might be utilized in the alkaline sections of the western United States. Mostly seen as a low shrub, but when left alone grows up into a small tree. The twigs are used for basket making and for fuel. Chinese name *Shan cheng liu*." (Meyer.)

22868. FUNKIA sp.

From Tsingyuenhsien, Shansi, China. "(No. 662, Mar. 12, 1908.) This plant is said to bear large, white, fragrant flowers. Has to be kept indoors in winter time. Chinese name *Pai yu tcheng hua*." (Meyer.)

22869. PAEONIA ALBIFLORA Pall.

Peony.

From Bimoyen Temple, mountains west of Peking, Chihli, China. "(No. 663, Mar. 18, 1908.) A very fine, white, double-flowered, fragrant peony (herbaceous). Chinese name *Pai shoo yoo hua*." (Meyer.)

22870. GLYCYRRHIZA GLABRA L.

Licorice.

From near Mapootoo, Hsintchan District, Shansi, China. "(No. 939a, Mar. 8, 1908.) Found growing along dry and exposed ridges." (Meyer.)

22871. EUONYMUS sp.

From near Tongchangdi, Kwohsien District, Shansi, China. "(No. 940a, Mar. 5, 1908.) Seeds picked up from the ground in a loess gorge, where the small shrubs themselves were in unapproachable situations." (Meyer.)

22872. EUONYMUS sp.

From Taiyuanfu, Shansi, China. "(No. 941a, Mar. 13, 1908.) A shrubby Euonymus, semideciduous, bearing many white capsules, out of which the scarlet seeds peep. Is grown sparsely by the Chinese as a pot plant for winter table decoration. Local name *Shi yüe mae*." (Meyer.)

22873. RHAMNUS sp.

From mountains near Tsintse, Shansi, China. "(No. 942a, Mar. 9, 1908.) A very dwarfy Rhamnus, found growing on dry, exposed mountain slopes. Well fit for rockery purposes." (Meyer.)

## 22874 to 22885. GLYCINE HISPIDA (Moench) Maxim. Soy bean.

From Tokyo, Japan. Purchased from the Tokyo Plant, Seed, and Implementation Company. Received May 14, 1908.

The following seeds, varietal identifications and descriptions made by Mr. H. T. Nielsen:

22874. Green.

22875. Flat King. Same as Nos. 19982 and 17252.

22876. Yellow. Similar in appearance to *Hollybrook*, No. 17269.

22877. Okute. Apparently identical with No. 19986.

22878. Butterball. Apparently identical with Nos. 19981 and 17273.



## 22874 to 22885—Continued.

22879. Yellow. Evidently two varieties; most of the seed very similar in appearance to *Acme*, No. 14954.
22880. Yellow. Quite closely resembling *Hollybrook*.
22881. Green.
22882. Yellow. Apparently identical with No. 20892.
22883. *Buckshot*. Apparently identical with No. 19987.
22884. Yellow, with a slight purple marking on many of the seeds.
22885. *Amherst*. Apparently identical with Nos. 19983 and 17275.

## 22886 to 22888.

From Swatow, Kwangtung, China. Presented by Mr. William Ashmore, jr., through Rev. J. M. W. Farnham, Chinese Tract Society, Shanghai, China. Received May 14, 1908.

The following seeds, varietal descriptions by Mr. H. T. Nielsen:

22886. *GLYCINE HISPIDA* (Moench) Maxim. Soy bean.  
Black.
22887. *VIGNA SESQUIPEDALIS* (L.) W. F. Wight.  
Red with one end and half of keel white.
22888. *VIGNA CATJANG* (Burm.) Walp.  
Similar in appearance to *Chinese Red*, Nos. 17328 and 22635, but seeds are smaller.

## 22891 to 22895.

From Bridgetown, Barbados, British West Indies. Presented by Mr. John R. Bovell, superintendent, Agricultural Department, at the request of the Imperial Commissioner of Agriculture for the West Indies. Received May 13, 1908.

The following tubers:

22891. *COLOCASIA* sp. Taro.  
*Japanese taro*.
22892. *COLOCASIA* sp. Taro.  
*Malanga* (via) Cuba.
22893. *COLOCASIA* sp. Taro.  
*Trinidad Yellow*.
22894. *COLOCASIA* sp.  
*Dasheen*.
22895. *XANTHOSOMA* sp. Yautia.  
*Amarilla*.

For previous shipment and remarks, see Nos. 22513 to 22523.

## 22896. (Undetermined.)

From southern Brazil. Presented by Mr. H. Nehrling, Gotha, Fla., through Mr. R. A. Young. Received May 18, 1908.

"A new root crop from southern Brazil, where it is called *Mangaridas*. The tubers look much like *Caladium* tubers, but the foliage differs from that genus. It is undoubtedly an aroid, but what it may be I do not know. It is cultivated largely in southern Brazil for its edible tubers. It is certainly no *Xanthosoma*, and it is no *Colocasia*." (Nehrling.)

**22897 to 22903.**

From Paotingfu, Chihli, China. Presented by Rev. J. W. Lowrie, D. D., through Rev. J. M. W. Farnham, Chinese Tract Society, Shanghai, China. Received April 22, 1908.

The following seeds. Chinese names in italic as given by Mr. Lowrie. Descriptions of varieties by Mr. H. T. Nielsen.

**22897 to 22901.** *GLYCINE HISPIDA* (Moench) Maxim. Soy bean.

**22897.** *Da ching don.*

Green. Similar to No. 17857.

**22898.** *Hwang don.*

Yellow.

**22899.** "*Hei don.* Boiled as a fodder for mules and horses. Oil expressed from it, and refuse used as manure." (*Lowrie.*)

Black. Similar to *Cloud*, No. 16790.

**22900.** "*Da wu don.* Tends to vary after successive plantings." (*Lowrie.*)

Black. Similar in appearance to *Nuttall*, Nos. 17253 and 19183, but has green cotyledons.

**22901.** *Hsiao bai hei don.*

Smoky yellow.

**22902.** *VIGNA SESQUIPEDALIS* (L.) W. F. Wight.

*Tsai don.*

Red.

**22903.** *VIGNA UNGUICULATA* (L.) Walp.

Cowpea.

*Giang don.*

Mottled. Similar in appearance to Nos. 17339 and 18617.

**22904 to 22906.**

From Shanghai, Kiangsu, China. Received through Mr. Frank N. Meyer, agricultural explorer, at the Plant Introduction Garden, Chico, Cal., August, 1907.

The following seeds:

**22904.** *MYRICA NAGI* Thunb.

From Dongsì, Chehkiang, China. "(No. 732a, June 25, 1907.) Large-fruited variety, called by foreigners the 'strawberry tree,' by the Chinese *Yang mae*. A small evergreen tree or large shrub, bearing round, wine red colored fruits which are very pleasing to the taste and can be eaten fresh, stewed, or preserved in spirits. The Chinese say the tree can not bear transplanting, so confine their roots by sowing them one or two seeds in each pot." (*Meyer.*)

**22905.** *MYRICA NAGI* Thunb.

From Dongsì, Chehkiang, China. "(No. 733a, June 25, 1907.) Medium-sized fruits. For further information see preceding number (S. P. I. No. 22904). Besides being a very agreeable fruit, the tree is also decidedly ornamental, especially when loaded with its carminic fruits. Loves, apparently, sheltered, well-drained locations." (*Meyer.*)

**22904 to 22906—Continued.****22906. MYRICA NAGI** Thunb.

From Dongsí, Chehkiang, China. "(No. 734a, June 25, 1907.) Small-fruited variety. For further remarks, see Nos. 732a and 733a (S. P. I. Nos. 22904 and 22905). The Chinese graft the large, sweet-fruited varieties upon the wild seedlings, but even among the seedlings there is a large variation in size of fruits and in productiveness." (*Meyer.*)

For previous importations see S. P. I. Nos. 9164 and 9314.

**22907. CAREX TRIANGULARIS** Boeckler.**Sedge.**

From Texas. Collected by Mr. F. W. Clarke, special agent in charge of matting-rush investigations. Received May, 1908.

"This seed was collected from plants growing in ditches and marshy places along and back from the Victoria division of the S. P. R. R. between Wharton and El Campo, Tex. No seed was gathered from a stalk less than 3 feet tall, and most of the seed was secured from plants 3 feet 6 inches high and upwards. This *Carex* occurs in abundant quantities from Crowley, La., to Victoria, Tex., and I presume it covers the whole coast country, but it is probably most plentiful in the black, waxy rice belt of Texas." (*Clarke.*) (For previous introduction see S. P. I. No. 20990.)

**22908. LENS ESCULENTA** Moench.

From Mexico. Secured by Mr. David Griffiths, assistant agriculturist, United States Department of Agriculture, on the market at Laredo, Tex. Received May 6, 1908.

"*Lanteja.* A common leguminous plant grown in Mexico extensively and used in about the same way as the chick pea." (*Griffiths.*)

**22909. PICEA OBOVATA SCHRENKIANA** (Fisch. & Mey.) Masters.

From St. Petersburg, Russia. Presented by Dr. A. Fischer von Waldheim, Imperial Botanic Gardens. Received March 27, 1908.

Tall, pyramidal tree, with pendulous branchlets and dull green leaves. Native of central Asia. (*Extract from Bailey.*)

**22910. XANTHOSOMA** sp.**Yautia.**

From Barbados, British West Indies. Presented by Mr. Valpierre Croney, 9 East 97th street, New York, through Mr. O. W. Barrett. Received May 11, 1908.

*Nut Eddo.*

**22911 to 22913. ANDROPOGON SORGHUM** (L.) Brot.

From Tsungming Island, China. Obtained through Rev. J. Ware and presented by Mr. S. P. Barchet, interpreter, American consulate, Shanghai, China. Received May 20, 1908.

**22911.****Kowliang.***Brown.***22912.****Kowliang.***Black-Hull.*

## 22911 to 22913—Continued.

22913.

Sorgo.

Chinese.

"The white variety (S. P. I. No. 22912) is considered inferior to the red (S. P. I. No. 22911, *Brown*), though planted in the same way. It is planted in richly manured land, in rows 6 inches wide covered lightly with half an inch of earth. If plants come up too thick or crowded, the plants which should be removed are not pulled, but cut off with a sharp knife, so as not to disturb the roots of neighboring plants." (*Barchet*.)

## 22914 and 22915.

From Shanghai, Kiangsu, China. Received through Mr. Frank N. Meyer, agricultural explorer, May 19, 1908.

22914. *ZIZYPHUS SATIVA* Gaertn.

Chinese date.

From Tientsin, Chihli, China. "(No. 667, Apr. 6, 1908.) Variety *tor-tuosa*. The *Crooked* or *Dragon's Claw* Chinese date. Cuttings of a very peculiar variety of the Chinese date, making a quaint and real Chinese impression. A rare plant, and very expensive in China. Chinese name *Lung tsao tsao shu*. Said to be very difficult to graft." (*Meyer*.)

22915. *CASTANOPSIS TIBETANA* Hance.

Chestnut.

From Shanghai, Kiangsu, China. "(No. 959a, Apr. 14, 1908.) A very large leaved, evergreen chestnut, growing into a stately, ornamental tree bearing edible nuts. Very rare in China. Obtained through Bishop G. E. Moule, of Hangchow. These trees will grow in the localities where oranges thrive." (*Meyer*.)

## 22916 to 22918.

From Gyangze, Tibet. Procured from the British trade agent at Gyangze and presented by Dr. Robert T. Morris, 616 Madison avenue, New York, through Mr. O. W. Barrett. Received May 19, 1908.

22916. *TRITICUM AESTIVUM* L.

Wheat.

22917. *HORDEUM DISTICHON NUDUM* L.

Barley.

22918. *PISUM ARVENSE* L.

Field pea.

"I would not presume to venture any opinion about the value of these seeds, but they grow in very high mountain regions and must at least be hardy in trying climates." (*Morris*.)

22919 to 22922. *GLYCINE HISPIDA* (Moench) Maxim. Soy bean.

From Ingchung, via Fuchau, China. Presented by Mr. J. Willis Hawley. Received May 22, 1908.

The following seeds. Varietal descriptions by Mr. H. T. Nielsen:

22919. Black. Very similar to No. 22886.

22920. Yellowish green.

22921. Yellow. Very similar to No. 22714.

22922. Yellow. Seed resembles *Mammoth* very closely, but slightly smaller.

**22923. STIZOLOBIUM sp.****Velvet bean.**

From Pensacola, Fla. Presented by Mr. P. K. Yonge, through Prof. S. M. Tracy, Biloxi, Miss. Received May 23, 1908.

*White.*

**22924 and 22925.**

From Italy. Presented by Dr. Robert T. Morris, 616 Madison avenue, New York, through Mr. O. W. Barrett. Received May 22, 1908.

**22924. LAGENARIA VULGARIS Ser.****Gourd.**

"*Zucctuni*. Similar to *Zucchette* (S. P. I. No. 22925), but having smaller fruits." (*Morris.*)

**22925. CUCURBITA PEPO L.****Pumpkin.**

"*Zucchette*. Climbing vine; very long fruit; used like cucumber, sliced and in salads; also boiled like turnip, and may be stuffed with meat and boiled or fried." (*Morris.*)

**22926. ZINZIBER OFFICINALE ROSC.****Ginger.**

From Kingston, Jamaica. Presented by Mr. W. Harris, superintendent, Department of Agriculture, Hope Gardens, at the request of Dr. R. H. True. Received May 29, 1908.

Procured for Dr. R. H. True's experiments at the Drug Plant Garden, Orange City, Fla.

**22927. GLYCINE HISPIDA (Moench) Maxim.****Soy bean.**

From Shanghai, Kiangsu, China. Presented by Rev. J. M. W. Farnham, Chinese Tract Society. Received May 27, 1908.

Black. "Identical with *Shanghai*, No. 14952; cotyledons are green." (*Nielsen.*)

**22928. CUCURBITA MAXIMA Duch.****Venetian squash.**

From Milan, Italy. Purchased from Fratelli Ingegnoli. Received May 28, 1908.

"*Zucca marina*. Sow in April in ground well manured and watered, making the holes distant from each other 50 centimeters; fill each one with good soil mixed with manure in which place two or three seeds and press down the earth. When the plants have developed, leave the more robust ones. Nourish and water abundantly with water mixed with liquid manure.

"To have large fruit leave only two or three fruits on each plant and remove the superfluous branches." (*Fratelli Ingegnoli.*)

**22929 to 22933. VIGNA UNGUICULATA (L.) Walp.****Cowpea.**

From Mount Silinda, Masetter District, Rhodesia, South Africa. Presented by Rev. Columbus C. Fuller. Received May 18 and 23, 1908.

The following seeds, descriptions of varieties by Mr. H. T. Nielsen:

**22929.** Similar in appearance to *Unknown*, but has a slight purplish tinge.

**22930.** Similar in appearance to *Macassar*, Nos. 21006 and 21299.

**22931.** Similar in appearance to *New Era*, but seed is a trifle smaller.

**22929 to 22933—Continued.**

**22932.** Black. Similar to our common black varieties, but seed a trifle smaller and many of them marked with small, gray specks.

**22933.** Similar in appearance to *Taylor*, No. 17342, but not quite so large.

"The smaller varieties are best for our rather poor soil." (*Fuller*.)

**22934. DOLICHOS LABLAB L.**

From Karlsruhe, Germany. Presented by Prof. L. Graebener, director, Botanical Gardens. Received May 28, 1908.

**22935 and 22936.**

From Tekhõe, via Fuchau, Fuhkein, China. Presented by Miss Jessie Alice Marriott. Received June 1, 1908.

**22935.** *VIGNA SESQUIPEDALIS* (L.) W. F. Wight.

**22936.** *PISUM ARVENSE* L.

Field pea.

**22937. FICUS sp.**

From Mokanshan, Chehkiang, China. Received through Mr. Frank N. Meyer, agricultural explorer, June 2, 1908.

"(No. 668, Apr. 22, 1908.) An ornamental creeping *Ficus* covering here and there rocks, bowlders, and tree trunks. Of use as a covering vine in the mild, moist-wintered regions of the United States. Closely allied to the well-known *Ficus repens*." (*Meyer*.)

**22938. VIGNA UNGUICULATA (L.) Walp.**

Cowpea.

From Pará, Brazil. Presented by Mr. C. F. Baker, Museu Goeldi. Received June 1, 1908.

"*Feijão manteiga*. One of the highest priced beans in the Pará market. Would make one of the very best soiling crops for this region." (*Baker*.)

"One of the *Lady* peas, probably *Conch*." (*Nielsen*.)

**22939. CITRUS AURANTIUM SINENSIS L.**

Sweet orange.

From Pará, Brazil. Presented by Mr. C. F. Baker, Museu Goeldi. Received June 1, 1908.

"One of the largest, finest oranges grown at Pará." (*Baker*.)

**22940. MEDICAGO SATIVA L.**

Alfalfa.

From Lima, Peru. Received from E. Sayan Palacios & Co., through Mr. C. J. Brand, May 20, 1908.

"This is a distinct Peruvian type of alfalfa as distinguished from the Chilean." (*Palacios*.)

"This will no doubt prove to be very similar to, if not identical with, S. P. I. No. 9303." (*Brand*.)

**22941. SAGUERUS PINNATUS Wurm.**

Sugar palm.

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Department of Agriculture. Received June 4, 1908.

"In Java the *Arenga saccharifera* (*Saguerus pinnatus*) is not cultivated in regular plantations; it needs much room and light and may be planted at



## 22941—Continued.

distances of 15 to 18 feet; the planting holes have to be 2 to 3 feet in breadth and in depth. At an altitude of 3,000 feet above sea level the tree is fit to be tapped at an age of about 16 years. It yields more at an altitude of 1,800 feet, where it fruits after 12 or 13 years. In the lowlands, too, it will succeed, but I can not say when it fruits there.

"The *aren idjo* (green arenga) is considered to be the most productive variety of our country. In the high regions it produces during about four years, in lower parts during three years; the quantity of juice and sugar continue getting less as the tree grows older. At the first tapping—this means when the first male peduncle is tapped—the tree produces about 7 liters of juice per twenty-four hours during about two and one-half months. Of some trees a second peduncle may be tapped immediately after the first one; of others, only after some time (three months). An arenga tree may be tapped from three to ten times, with an average of six times. At the second and following tapplings the arenga produces at every tapping for a period of about forty-five days about  $5\frac{1}{2}$  liters of juice (per twenty-four hours) of a declining sugar content; about  $3\frac{1}{2}$  liters of juice of the first tapping give about 0.617 kilo of sugar; the following tapplings give the same quantity of sugar to a production of  $5\frac{1}{2}$  liters of juice. The production of sugar of one tree during its whole lease of life may be stated at about 225 kilos, with a local value of 13 cents (about 5 American cents) per kilo, or in total about 30 Dutch guilders (12 American dollars).

"The sugar is prepared by boiling the juice. This boiling takes much fuel, which fact gives no trouble in the interior of Java; however, if wood had to be bought for the purpose—as it would be in towns of Java—the value of the sugar would not make good the expenses for fuel. Sugar, therefore, is not manufactured in and near the towns.

"As to the method of tapping, I beg to refer to the work of A. Tschirch, *Indische Heil und Nutzpflanzen*, Berlin, 1892, page 160. This book does not mention that the male peduncle has to be swung to and fro during some days, and afterwards beaten effectively before the inflorescence is cut off; further, that every day during the tapping a slice of the peduncle has to be cut off. Experiments made here some years ago by Professor Molisch have shown that without any doubt stimuli have a great effect on the flow of sugar-containing juice.

"Taking the figures given above as a basis for calculation, an acre can be planted with 160 trees of *A. saccharifera* (*S. pinnatus*), which, producing 500 pounds of sugar per tree, will theoretically give a total production of 80,000 pounds, equal to 35 tons per acre, at the end of from fifteen to twenty years, or an average of from 2 to  $2\frac{3}{4}$  tons per year.

"Personally, I am inclined to think the actual production will be considerably below these figures, one reason for this being that with such close planting the trees will not be able to develop fully; probably an average of about 100 fully developed producing trees will be nearer the mark, but even then a production of over 1 ton per year will be obtained.

"The great drawback is that, from the nature of the sugar palm, it will probably not be possible to grow catch crops after the third or fourth year; during the first twelve to sixteen years no profits are obtained; then comes a big harvest during three or four years, after which the plantation is valueless, and it will entail considerable expense to again clear the land for other crops. Moreover, taking into consideration that most people, and especially tropical people, are not inclined to wait a dozen years or longer before they get any

**22941—Continued.**

return for their labor, I should not consider it advisable to make regular plantations of *A. saccharifera* (*S. pinnatus*). Quite a different matter is to plant the tree in village gardens along roads, alternating with the shade trees. In such locations, under which the labor of planting and cultivating is next to nothing, the people of Porto Rico can afford to wait for the returns, which will probably prove quite remunerative." (*Treub*.)

**22942 to 22944.**

From Uitenhage, Cape Colony, South Africa. Presented by Mr. H. Fairey, Public Park and Gardens. Received June 4, 1908.

**22942.** ANDROPOGON SORGHUM (L.) Brot. Sorgo.

"This sorgo has pyramidal spreading panicles similar to *Amber*, but with larger spikelets and seed." (*Ball*.)

**22943.** PENNISETUM AMERICANUM (L.) Schum. Pearl millet.

"This seed is from Rhodesia, South Africa, and is known as *Myouti* by the Mashona natives (pronounced something like Meout). The seed is much used, I am told, for poultry feeding, and an oil can also be extracted from it." (*Fairey*.)

**22944.** (Undetermined.)

"A legume of no economic value so far as I know, but is useful for edgings to walks and beds in this country, but would not withstand your winters." (*Fairey*.)

**22945. PHASEOLUS sp. Bean.**

From Java. Presented by Mr. P. D. Mulder, Banda-Neira, Molukken Islands, East Indies. Received June 4, 1908.

"*Kratok*. The seeds when young are used by the natives for food. When the beans are older they are exported. In Java it is planted for making the bottom lands more fertile, and much profit is derived from it." (*Mulder*.)

**22946. MEDICAGO SATIVA L. Alfalfa.**

From Mitchell, S. Dak. Grown by Prof. W. A. Wheeler. Received through Mr. C. J. Brand, June 3, 1908.

"(P. L. H. No. 3332.) The so-called Baltic alfalfa, grown from South Dakota Agricultural Experiment Station No. 167. The original source of the seed is unknown, the parent seed having been purchased in 1896 from a seed dealer at Hartford, S. Dak. This is a very free seeding variety and is unusually hardy." (*Brand*.)

**22947. MEDICAGO SATIVA L. Alfalfa.**

From Excelsior, Minn. Secured by Mr. C. J. Brand from Prof. W. A. Wheeler, Mitchell, S. Dak., and was probably grown by Mr. A. B. Lyman, of Excelsior, Minn., from whom Professor Wheeler purchased it. Received June 3, 1908.

*Grimm*. (P. L. H. No. 3333.)

**22948. MEDICAGO SATIVA L.****Alfalfa.**

From Guaranda, Ecuador. Received from Mr. H. R. Dietrich, consul-general, Guayaquil, Ecuador, through Mr. C. J. Brand, June 8, 1908.

"(P. L. H. No. 3326.) A rapid-growing form of alfalfa from the Andean plateau, similar in many respects to the Peruvian alfalfa described in Bulletin No. 118, Bureau of Plant Industry." (*Brand.*)

**22949. MEDICAGO SATIVA L.****Alfalfa.**

From Chile, South America. Presented by Mr. José D. Husbands, Limávida, Chile, through Mr. C. V. Piper. Received June 3, 1908.

"Wild alfalfa found in the foothills of the Cordillera, in a section of moist, virgin land, upon which the alfalfa appears as a weed when field crops are planted for the first time." (*Husbands.*)

**22955. GARCINIA BINUCAO (Blanco) Choisy.**

From Manila, P. I. Presented by Mr. W. S. Lyon. Received June 11, 1908.

"This has the widest range of any species (of *Garcinia*) which I know; its fruiting season covers the longest time (March to July); it is fairly robust, sometimes 40 meters high, and is the most cosmopolitan of any species we have. I have seen it at sea level and up to 3,000 feet. This *binucao*, or *camangis*, or *gatasan*, et al. is found in rock fissures; in dry, gravelly, sterile washes; on the margins of swamps, and in rich, fat valley soils." (*Lyon.*)

**22956. ANONA RETICULATA L.****Custard apple.**

From Port of Spain, Trinidad, British West Indies. Presented by Dr. E. André. Received June 10, 1908.

**22957. BELOU MARMELOS (L.) W. F. Wight. (ÆGLE MARMELOS (L.) Correa.)****Bael tree.**

From Nyaunglebin, Burma, India. Presented by Rev. Henry W. Hale, Box 30, R. F. D. No. 1, Savannah, Ga. Received June 8, 1908.

"These seeds are from the very best bael fruit." (*Hale.*)

"The bael tree of India ascends to an altitude of 4,000 feet. It grows to a height of 40 feet. The fruit has matured near Rockhampton, Australia (23° S. lat.) The plant is readily propagated from root cuttings and is otherwise of easy cultivation. The fruit is of medicinal, particularly antidyenteric, value. The root and the leaves are also used medicinally." (*Extract from Von Mueller's Select Extra-Tropical Plants.*) (For previous introduction see S. P. I. No. 19367.)

**22958 to 22960. VIGNA UNGUICULATA (L.) Walp.****Cowpea.**

From Mount Silinda, Malsetter District, Rhodesia, South Africa. Presented by Rev. Columbus C. Fuller. Received June 13, 1908.

The following seeds. Descriptions of varieties by Mr. H. T. Nielsen:

**22958.** Black with gray specks. The seed has the same general appearance as many of the hybrids between *Black* and *Iron*.

**22959.** Red. Similar to *Red Ripper*, but seed is larger.

**22960.** *Clay.*

**22961. PHALARIS COERULESCENS Desf.**

From Bathurst, New South Wales, Australia. Presented by Mr. R. W. Peacock, manager, Experimental Farm, through Mr. C. V. Piper. Received June 13, 1908.

"This new fodder plant has been tried by Mr. J. Furphy, of Hill End, in the Moe District, West Gippsland, who says it supplies what has long been wanted—a winter feed for stock, as it resists the frosts and keeps growing right through the winter months. Mr. Furphy states that he obtained a few plants and transplanted them at the end of April of last year, putting them out in drills 3 feet apart and 2 feet in the drills. By the end of June they had made a growth of 2 feet, sending out shoots until, by the end of the season, as many as 167 stems had been produced by one plant, the highest averaging 7 feet, while some of the stronger stems obtained a height of  $8\frac{1}{2}$  feet, the clumps measuring 2 feet across. Although it was a severe winter, not a yellow leaf could be seen, and the growth was continuous, with nice, succulent blades up to the flowering stems. The roots are fibrous, the foliage very dense, and color a bright green in the middle of winter. It seems to succeed in the colder districts where other plants do not thrive. Autumn planting is recommended, and Mr. Furphy favors giving the plants plenty of room. His plot yielded at the rate of 60 bushels of seed and 8 tons of hay to the acre. He cut the crop at the end of January, this year, and in 45 days it had grown a second crop nearly 3 feet high, the weather meantime being very dry. As to the milk-producing qualities of the grass, judging by its succulent quality and the abundance of the crop, Mr. Furphy is convinced that it will prove a most valuable fodder for the dairy herd." (*Journ. Dept. Agric. Western Australia*, vol. 15, p. 652. 1907.)

**22962. MEDICAGO SATIVA L.****Alfalfa.**

From about 50 miles south of Lan Chow, Kansu, China. Presented by Rev. David Ekvall, Tehtao, Kansu, China, through Mrs. Edward Q. Knight, Takoma Park, D. C. Received June 16, 1908.

"The natives say this seed must be sown with something else to grow well." (*Ekvall*.)

**22963 to 22968.**

From Argentina, South America. Presented by Señor Mario Estrada, Division of Agriculture, Buenos Aires. Received June 10, 1908.

22963 to 22965. From province of Buenos Aires.

22963. *ERAGROSTIS* sp.

22965. *RUMEX CRISPUS* L.

22964. *ERAGROSTIS* sp.

22966. *ANDROPOGON SACCHAROIDES* SW.

From province of Santa Fé.

22967. *BRIZA* sp.

From province of Santa Fé.

22968. *PANICUM BERGI* Arech.

From province of Buenos Aires.

**22969. GLADIOLUS SALMONEUS Baker.****Gladiolus.**

From Merea, Durban, Natal. Presented by Dr. J. Medley Wood, director, Natal Botanic Gardens. Received June 18, 1908.

"Corms of a handsome but not very common species." (*Wood*.)

**22970. MANGIFERA INDICA L.****Mango.**

From Bombay Province, India. Procured by Mr. Wm. H. Michael, consul-general, Calcutta, India. Received June 19, 1908.

*White Alfonso.* "The Advocate of India has this to say of the *White Alfonso* mango: 'We have at this moment on the office table a specimen of mango which has been sent to us, the like of which has never before been grown. It is a *White Alfonso*, perfect in shape, with a beautiful satin skin and a subtle aroma which faithfully indicates the delicate flavor of its golden pulp. It is a triumph in every respect, and with the smallest stone for its size. Yet it is of gigantic weight and proportions. A good specimen of the *Golden Alfonso*, so far our best mango, does not weigh more than about 4 ounces. The *White Alfonso* just fails to tip the beam at the weight of 2½ pounds. The *White Alfonso*, or *Safeda Afoos*, is grown about 20 miles outside Bombay city, in the direction of Borivill, and although the fruit has reached gigantic size, this is the first occasion on which the trees have borne fruit. There is only a limited supply at present, but the new fruit seems destined to wrest the pride of place from the still glorious specimen, the *Golden Alfonso*. A peculiarity of the pulp is its pale rose colored hue. The few which have been offered to the public have found ready purchasers at 15 rupees, or \$5 per dozen.'" (*Michael*.)

**22971. CACARA EROSA (L.) Kuntze.****Hicama.**

From Guadalajara, Mexico. Presented by Señor Luis Rosas, through Mr. Frederic Chisolm. Received June 20, 1908.

"The plant, which in both Guam and the Philippines bears its Mexican name, was probably brought (to Guam) from Mexico. It is now common in the woods, climbing among the bushes and trees and twining about everything with which it comes in contact. The young root is much like a turnip in shape and consistency, and is easily peeled like a turnip. It is usually eaten raw, and may be prepared with oil and vinegar in the form of a salad. According to Dr. Edward Palmer it is extensively cultivated in Mexico, where the natives pinch off the blossoms and seed pods, giving as a reason that if the seeds are allowed to mature the roots are not good. In Mexico the roots are much eaten raw, but are also pickled, boiled in soup, and cooked as a vegetable. As they come from the ground they are crisp, sweet, juicy, and of a nutty flavor. They are nourishing and at the same time quench the thirst, so that they are much liked by travelers. One way of preparing the raw roots is to cut them in thin slices and sprinkle sugar over them. They may also be boiled and prepared with batter in the form of fritters, and in Mexico they are often minced or grated, and with the addition of sugar, milk, eggs, and a few fig leaves for flavoring, made into puddings." (*Safford's Useful Plants of Guam*.)

"The Jicama (*Hicama*) de agua is one of the most widely popular vegetables grown in Mexico, and when in season one rarely meets an Indian who is not munching a large specimen. For the table I have seen them peeled, thinly sliced, and served with sliced oranges, forming the dessert dish called 'pico de gallo'—cock's bill. In the hot season the tubers are delightfully refreshing, whether eaten out of hand or sliced as a made dish. The plant cultivated is usually planted either in hills or on the ridge of ordinary rows, and should be given rather careful cultivation, the tips of the vines and all flower buds being pinched off in order to make the plant develop large tubers." (*Chisolm*.)



**22972 and 22973. MEDICAGO SATIVA L.****Alfalfa.**

From Chile. Presented by Mr. Rea Hanna, American consul, Iquique. Received June 19, 1908.

**22972.**

From Pica, Tarapacá, Chile. "The man from whom I procured it says that the alfalfa from which it was obtained has been planted 12 years and produces from six to eight crops per year." (*Hanna.*)

**22973.**

From Matilla, Chile. "I do not know that there is any difference between this and the above (S. P. I. No. 22972), except that it comes from another small oasis near Pica. Many of these fields have been planted for nearly 100 years without reseeding and give remarkable crops, and the plants may have acquired some new qualities of virility from the wonderful soil and atmosphere." (*Hanna.*)

**22974 to 23038.**

From China. Received through Mr. Frank N. Meyer, agricultural explorer, and brought by him to the Plant Introduction Garden, Chico, Cal., June, 1908.

The following plants:

**22974. SOPHORA JAPONICA L.**

From Fengtai, near Peking, Chihli, China. "(No. 331, Mar. 31, 1908.) The well-known Pagoda tree, of which there are two varieties in China, one with a whitish bark and the other with black. Both varieties are supposed to be among this lot, but it is not until after a few years that one is able to see the difference between the trees; when young they all look alike. Chinese name *Huai shu*." (*Meyer.*)

**22975. ULMUS PUMILA L.****Elm.**

From Fengtai, near Peking, Chihli, China. "(No. 332, Mar. 31, 1908.) The Chinese elm, used all over northern China and Manchuria as an avenue, shade, and timber tree. Resists droughts, extremes of heat and cold, and neglect remarkably well; will be a good shade tree for the semiarid northern regions of the United States. The Chinese carts are mainly constructed from the wood of this tree. Chinese name *Dja yü shu*, meaning family elm tree." (*Meyer.*)

**22976. ERIOBOTRYA JAPONICA (Thunb) Lindl.****Loquat.**

From Tangsi, Chehkiang, China. "(No. 333, Mar., 1907, and Apr., 1908.) A loquat said to bear white or at least very pale yellow colored fruits, which have a very fine flavor. A rare variety. Chinese name *Pai bibaw*." (*Meyer.*)

**22977. MYRICA NAGI Thunb.**

From Tangsi, Chehkiang, China. "(No. 334, Mar., 1907.) The so-called 'strawberry tree' of central China; produces nice edible fruits which can be preserved or used in pastries, fruit sirups, etc. Chinese name *Yang mae*." (*Meyer.*)

**22978. VIBURNUM MACROCEPHALUM Fortune.**

From Soochow, Kiangsu, China. "(No. 335, Apr. 26, 1908.) The giant Chinese snowball. A tall bush bearing enormous umbels of white flowers, sometimes over 1 foot in diameter. The plants are mostly used



## 22974 to 23038—Continued.

in gardens to cover up a corner or hide a wall, but they are also often grafted upon the wild form which has single flowers, and grown then in a dwarfed state in tubs or pots. Probably not hardy north. Chinese name *Mu bun sen chu*." (Meyer.)

## 22979. ILEX CORNUTA Lindl. &amp; Paxt. (?)

From Soochow, Kiangsu, China. "(No. 336, Apr. 26, 1908.) The Chinese holly. A very ornamental bush or small tree loaded in winter with scarlet berries. A slow grower, and probably not hardy north. Chinese name *Ta hu tse*." (Meyer.)

## 22980. CAESALPINIA sp.

From Soochow, Kiangsu, China. "(No. 337, Apr. 26, 1908.) A very rare shrub, only one specimen in Soochow. Not hardy north. Chinese name *Pai chi mei*." (Meyer.)

## 22981. CARAGANA sp.

From Soochow, Kiangsu, China. "(No. 338, Apr. 26, 1908.) A low-growing Caragana, bearing bronze-yellow flowers; is cultivated in pots as an ornamental plant and is far from being common. Probably not hardy north. Chinese name *Fei chong*." (Meyer.)

## 22982. LOROPETALUM CHINENSE R. Br.

From Soochow, Kiangsu, China. "(No. 339, Apr. 26, 1908.) An ornamental, evergreen shrub, sometimes growing into a small tree, bearing small, elliptical, dark green leaves, while in spring it is covered with masses of white, fringed flowers, which are delightfully fragrant; it is very rarely found cultivated, and wild specimens do not stand transplanting readily. Chinese name *Chuck mei*." (Meyer.)

## 22983. AZALEA sp.

Azalea.

From Soochow, Kiangsu, China. "(No. 340, Apr. 26, 1908.) A rare variety of Azalea having wine purple colored, semidouble flowers ('hose-in-hose,' this variation is called). Chinese name *Tsze ja tau*." (Meyer.)

## 22984. CYDONIA sp.

Quince.

From Soochow, Kiangsu, China. "(No. 341, Apr. 26, 1908.) A very small form of a quince. Chinese name *Lo hai tang*." (Meyer.)

## 22985. (Undetermined.)

From Soochow, Kiangsu, China. "(No. 342, Apr. 26, 1908.) *Zelkova* or *Ulmus*. Often dwarfed by the Chinese and grown in all kinds of earthen vessels; also found wild in the mountains. Chinese name *Yu shu*." (Meyer.)

## 22986. ELAEAGNUS PUNGENS Thunb. (?)

From Soochow, Kiangsu, China. "(No. 343, Apr. 26, 1908.) A tall shrub or small tree with silvery leaves, flowering in early spring with masses of tiny, pale yellow colored flowers which emit a delightful perfume and attract many honey-collecting insects. May serve for a hedge tree, as it is somewhat spiny and grows very dense. Probably not hardy north. Chinese name *Tan kwan tou*." (Meyer.)

## 22987. (Undetermined.)

From Soochow, Kiangsu, China. "(No. 344, Apr. 26, 1908.) Small-leaved, evergreen shrub; grown rarely as a dwarfed tree in vessels. Chinese name *Chuck mei tang*." (Meyer.)

## 22974 to 23038—Continued.

## 22988. LIGUSTRUM sp.

From Soochow, Kiangsu, China. "(No. 345, Apr. 26, 1908.) A dwarfy privet of spreading habit." (Meyer.)

## 22989. PRUNUS sp.

Plum.

From Soochow, Kiangsu, China. "(No. 346, Apr. 26, 1908.) A red-flowered plum, much used for house and shop decoration during Chinese New Year; it is generally grafted upon *Amygdalus davidiana* (Carr.) Dipp., the remarkable hardy 'original' peach. These plants are being forced by the thousands and sell for high prices. Chinese name *Hong mei*." (Meyer.)

## 22990. PRUNUS sp.

Plum.

From Soochow, Kiangsu, China. "(No. 347, Apr. 26, 1908.) A white-flowered plum; for remarks see the preceding number (S. P. I. No. 22989). Chinese name *Lu mei*." (Meyer.)

## 22991. PRUNUS JAPONICA Thunb. (?)

From Soochow, Kiangsu, China. "(No. 348, Apr. 26, 1908.) A dwarfy shrub, bearing dense masses of small, double, white flowers on its slender branches. Apparently the white variety of No. 669 (S. P. I. No. 23007); as such see this number for remarks. Chinese name *Sui li*. Can be propagated by slips with a heel left to them." (Meyer.)

## 22992. RIBES sp.

Currant.

From Soochow, Kiangsu, China. "(No. 349, Apr. 26, 1908.) A currant grown in pots and in tubs; rarely seen. Apparently collected in the mountains. Chinese name *Chi ching*." (Meyer.)

## 22993. SPIRAEA sp.

From Soochow, Kiangsu, China. "(No. 350, Apr. 26, 1908.) A bushy, white-flowered Spiraea. Fit to be grown as an ornamental garden shrub. Chinese name *Yang teng*." (Meyer.)

## 22994. DAPHNE sp. (?)

From Soochow, Kiangsu, China. "(No. 351, Apr. 26, 1908.) An ornamental, spring-flowering shrub. Chinese name *Chi hsian*." (Meyer.)

## 22995. EUONYMUS ALATUS (Thunb.) Rupr.

From Soochow, Kiangsu, China. "(No. 352, Apr. 26, 1908.) A deciduous shrub, having characteristic four-winged, white-colored fruits hanging down in long peduncles, which contrast greatly with the bright scarlet hues of the leaves in autumn. Chinese name *Pau shu*." (Meyer.)

## 22996. (Undetermined.)

From Soochow, Kiangsu, China. "(No. 353, Apr. 26, 1908.) Ericaceous shrub. A very rare shrub, having glossy, green, laurel-like leaves and bearing red, bent-down flowers. Not very hardy. Chinese name *Yu kwei*." (Meyer.)

## 22997. LESPEDEZA sp.

From Soochow, Kiangsu, China. "(No. 354, Apr. 26, 1908.) A low, shrubby Lespedeza, with large pinnate leaves and bearing graceful racemes of flowers, either purple or white, as there are two varieties. Can be used to advantage in small gardens and in rockeries; also as pot plants. Probably not quite hardy. Chinese name *Lu chuen yuen*." (Meyer.)

## 22974 to 23038—Continued.

22998. *CARISSA BISPINOSA* (L.) Desf.

From Soochow, Kiangsu, China. "(No. 355, Apr. 26, 1908.) A strange, beautiful, little plant; very spiny, with very small, dark green, glossy leaves and bright red berries; very ornamental, and well fit for table decoration during the winter holidays. Wants cool, shady situations and is not hardy in the cold-wintered regions. Chinese name *Shau hu tsi*." (Meyer.)

22999. *HEDERA* sp.

From Soochow, Kiangsu, China. "(No. 356, Apr. 26, 1908.) A rare, variegated form of the Chinese yellow-berried ivy. Probably not hardy north. Chinese name *Yu chuck*." (Meyer.)

## 23000. (Undetermined.)

From Soochow, Kiangsu, China. "(No. 357, Apr. 26, 1908.) A purple-flowered, terrestrial orchid, said to grow wild near Hangchow. An ornamental plant for gardens in the southeastern United States. Chinese name *Yo lan*." (Meyer.)

## 23001. (Undetermined.)

From Soochow, Kiangsu, China. "(No. 358, Apr. 28, 1908.) A red-flowering lily. Chinese name *Yang pou an*." (Meyer.)

## 23002. (Undetermined.)

From Soochow, Kiangsu, China. "(No. 359, Apr. 26, 1908.) A white-flowering lily. Chinese name *Oue su*." (Meyer.)

23003. *ACORUS* sp.

From Soochow, Kiangsu, China. "(No. 360, Apr. 26, 1908.) A pigmy variety of a sweet flag; grown in small pots in saucers of standing water; fit to be grown in aquariums as a small, ornamental plant. Chinese name *Chang pu*." (Meyer.)

## 23004. (Undetermined.)

From Hangchow, Chehkiang, China. "(No. 361, June 27, 1907.) An epiphytic orchid, obtained from Bishop G. E. Moule, in whose garden it grows on a cryptomeria tree in the shade." (Meyer.)

## 23005. (Undetermined.)

From Ningpo, Chehkiang, China. "(No. 362, July 3, 1907.) An epiphytic orchid, coming from the neighboring mountains and sold on the streets as medicine." (Meyer.)

23006. *BUDDLEIA ASIATICA* Lour.

From Shanghai, Kiangsu, China. "(No. 363, May 15, 1908.) A very ornamental plant for winter flowering in a moderately warm greenhouse; has beautiful white drooping racemes, and the potted plants can be used very advantageously in decorative work. It needs about the same cultural treatment as the *Euphorbia pulcherrima* Willd.—that is, it needs a rest in spring and to be kept dry; after that the old plants can be cut back or young plants can be made from the young sprouts." (Meyer.)

23007. *PRUNUS JAPONICA* Thunb. (?)

From Hangchow, Chehkiang, China. "(No. 669, June 28, 1907.) A low shrub with elliptical, lanceolate leaves, covered in spring with masses of small, double, rosy flowers; much used in forcing during the Chinese holi-

## 22974 to 23038—Continued.

days (January and February); may also be used for planting out in beds or rockeries. Chinese name *Bai loa*." (Meyer.)

23008. *VIBURNUM TOMENTOSUM* Thunb.

From Hangchow, Chehkiang, China. "(No. 670, June 28, 1907.) A Chinese snowball bearing masses of short, white umbels in early summer; somewhat stiff in appearance, but still very ornamental; often grown in pots when dwarfed, but mostly seen as a garden shrub growing as high as 12 feet. Chinese name *Geh dyo tsu*." (Meyer.)

23009. *RUBUS ROSAEFOLIUS* Smith.

From Hangchow, Chehkiang, China. "(No. 671, June 28, 1907.) Flowering in early summer with great masses of large, white, double flowers. Often grown in pots or tubs; also seen in gardens, where it has been planted for covering up an old wall or an unsightly place. Spreads rapidly through the ground by means of its suckers. Chinese name *Yang ching yen teung*." (Meyer.)

23010. *LARIX* sp.

From Hangchow, Chehkiang, China. "(No. 672, June 28, 1907.) A pretty larch much grown as a pot plant when dwarfed; if planted out, it grows into a medium-sized tree. Seems to be able to grow on sterile mountain sides and may be fit for forestation purposes in the southeastern United States. Chinese name *Ching sung*." (Meyer.)

23011. *LYCHNIS FULGENS* Fisch. (?)

From Hangchow, Chehkiang, China. "(No. 673, June 28, 1907.) An herbaceous perennial of a dwarfy habit, bearing brilliant scarlet flowers. Grown as an ornamental pot plant by the Chinese. Chinese name *San dia lau yang*." (Meyer.)

23012. *BUXUS SEMPERVIRENS* L.

From Hangchow, Chehkiang, China. "(No. 674, June 28, 1907.) Var. *lanceolata*. Mostly grown as a dwarf tree in vessels; also seen in gardens as a shrub or small tree, clipped or twisted in many grotesque shapes. Reaches a great age, several centuries. The wood is used in the manufacture of fine combs and knife handles. Chinese name *Kua tse huang yang*." (Meyer.)

## 23013. (Undetermined.)

From Hangchow, Chehkiang, China. "(No. 675, June 28, 1907.) An evergreen shrub, probably growing into a small tree; bears greenish white, bell-shaped flowers; grown in pots when dwarfed; seen rarely as a garden shrub. Chinese name *Mou li*." (Meyer.)

23014. *ASPARAGUS* sp.

From Hangchow, Chehkiang, China. "(No. 676, June 28, 1907.) A very small, herbaceous asparagus, attaining a height of only 3 to 5 inches; is used as a lining along paths in small gardens; requires a shady situation." (Meyer.)

23015. *ASPARAGUS* sp.

From Soochow, Kiangsu, China. "(No. 677, Apr. 26, 1908.) A feathery, graceful, herbaceous asparagus; grown as an ornamental pot plant in shady situations. Chinese name *Wen chu*." (Meyer.)

## 22974 to 23038—Continued.

## 23016. ASPARAGUS sp.

From Shanghai, Kiangsu, China. "(No. 678, May 12, 1908.) A plummy, herbaceous asparagus, used as an ornamental pot plant and as cut green in bouquets; requires a shady situation." (Meyer.)

## 23017. PINUS BUNGEANA Zucc.

Pine.

From Taiyuanfu, Shansi, China. "(No. 679, Mar. 13, 1908.) The beautiful and striking white-barked pine tree, growing to be very old, perhaps up to twenty centuries. These trees are said to come from Honan. Chinese name *Pai kua sung shu*." (Meyer.)

## 23018. PINUS BUNGEANA Zucc.

Pine.

From Fengtai, near Peking, Chihli, China. "(No. 680, Mar. 31, 1908.) These trees are said to come from central Shansi. For further remarks see preceding number (S. P. I. No. 23017)." (Meyer.)

## 23019. PINUS BUNGEANA Zucc.

Pine.

From Soochow, Kiangsu, China. "(No. 681, Apr. 26, 1908.) These trees are called here *Pai pu sung*. For further remarks see Nos. 679 and 680 (S. P. I. Nos. 23017 and 23018)." (Meyer.)

## 23020. ABIES sp.

Fir.

From Fengtai, near Peking, Chihli, China. "(No. 682, June 1, 1908.) A rare, bluish fir, valued highly by the Chinese. Probably very hardy in the drier regions of the United States. Chinese name *Lou han sung shu*." (Meyer.)

## 23021. ABIES sp.

Fir.

From Tientsin, Chihli, China. "(No. 683, Apr. 3, 1908.) The same as the preceding number (S. P. I. No. 23020); as such see remarks applying to it." (Meyer.)

## 23022. JUNIPERUS sp.

Juniper.

From Fengtai, near Peking, Chihli, China. "(No. 684, Mar. 31, 1908.) A very rare, ornamental variety of juniper of a deep bluish color; not hardy north, and in winter should be stored in a cool greenhouse. These specimens are grafted on to *Thuya orientalis*. Chinese name *Tsui bai*." (Meyer.)

## 23023. JUNIPERUS sp.

Juniper.

From Tientsin, Chihli, China. "(No. 685, Apr. 3, 1908.) A specimen of remarkable beauty, also grafted, apparently. Said to come from southwestern Shantung. For further remarks see preceding number (S. P. I. No. 23022)." (Meyer.)

## 23024. CUPRESSUS FUNEBRIS Endl. (?)

From Fengtai, near Peking, Chihli, China. "(No. 686, Mar. 31, 1908.) A rare, drooping *Thuya*, grafted upon *Thuya orientalis*. Beloved by the Chinese on account of its queer, characteristic appearance. Not hardy; in winter should be put in a cool greenhouse. Chinese name *Hsien bay*." (Meyer.)

## 23025. JUNIPERUS CHINENSIS PENDULA Franchet.

From Fengtai, near Peking, Chihli, China. "(No. 687, Mar. 31, 1908.) A rare and graceful weeping juniper, grafted upon *Thuya orientalis*. Not hardy, in winter should be kept in a cool greenhouse. Chinese name *Ying lou sung*." (Meyer.)



## 22974 to 23038—Continued.

## 23026. EPHEDRA sp.

From Taiyuenfu, Shansi, China. "(No. 688, Mar. 13, 1908.) The rare and strange horsetail plant. A hardy, evergreen garden shrub, for arid regions. These plants are said to come from Honan. Chinese name *Ma whou sung*." (Meyer.)

## 23027. EUONYMUS sp.

From Taiyuenfu, Shansi, China. "(No. 689, Mar. 31, 1908.) A semi-evergreen Euonymus, loaded in winter with white capsules, out of which peep scarlet berries. Grown dwarfed in pots and fit for table decoration during the winter holidays. This plant may not be quite hardy north, as the Chinese keep it in a frostproof cellar in winter. Chinese name *Shi yuen mac*." (Meyer.)

## 23028. CITRUS LIMONUM Risso (?)

Lemon.

From Fengtai, near Peking, Chihli, China. "(No. 690, Mar. 31, 1908.) Ornamental lemon. This lemon is grown as a pot plant when dwarfed, and is very much appreciated by the Chinese higher classes as a decorative plant in winter. At that season a small plant often has a dozen large lemons hanging on its branches and sometimes sells for \$10. Protect from frost. Can be slipped in sandy soil in flat pots. Chinese name *Hsien yang*." (Meyer.)

## 23029. LONICERA sp.

From Tientsin, Chihli, China. "(No. 691, Apr. 3, 1908.) A dwarf honeysuckle grown in pots as an ornamental plant. The flowers are remarkably fragrant in the evening. Seems to be semitender, as the Chinese keep them in pits in winter. Chinese name *Ching yin hua*." (Meyer.)

## 23030. SYRINGA OBLATA Lindl. (?)

Lilac.

From Fengtai, near Peking, Chihli, China. "(No. 692, Mar. 31, 1908.) A fragrant, ornamental, large, purple-flowered lilac, growing into a big bush or a small tree; very drought resistant. Chinese name *Tse ting hsien*. This variety and the following one (S. P. I. No. 23031) are often grafted in central China upon high-stemmed *Ligustrum lucidum*, making then a fine effect." (Meyer.)

## 23031. SYRINGA OBLATA Lindl. (?)

Lilac.

From Fengtai, near Peking, Chihli, China. "(No. 693, Mar. 31, 1908.) A medium-sized, white-flowering lilac. See preceding number (S. P. I. No. 23030) for remarks. Chinese name *Pai ting hsien*." (Meyer.)

## 23032. SYRINGA sp.

Lilac.

From Fengtai, near Peking, Chihli, China. "(No. 694, Mar. 31, 1908.) A small-leaved lilac, bearing many panicles of purple flowers, grafted upon a small-leaved privet. Used much in forcing; quite rare and expensive; not hardy. Chinese name *Shau ting hsien*." (Meyer.)

## 23033. SYRINGA sp.

Lilac.

From Tientsin, Chihli, China. "(No. 695, Apr. 3, 1908.) A small-leaved lilac, the same species as the preceding number (S. P. I. No. 23032), but apparently of slightly different colors. There are two white-flowering ones among them; otherwise the same remarks apply to it as to No. 694 (S. P. I. No. 23032). Keep them protected from heavy frosts.



**22974 to 23038—Continued.**

Has a future for the western people as a very graceful, spring-flowering shrub of dwarfy habits." (*Meyer.*)

**23034.** *ROSA XANTHINA* Lindl.

**Rose.**

From Fengtai, near Peking, Chihli, China. "(No. 696, Mar. 31, 1908.) A yellow rose, remarkably hardy, resisting drought and extremes of dry heat and dry cold to an unusual degree. For further remarks see Nos. 67, 68, and 254 (S. P. I. Nos. 17469 and 22452)." (*Meyer.*)

**23035.** *ROSA* sp.

**Rose.**

From Tientsin, Chihli, China. "(No. 697, Apr. 3, 1908.) A red rose said to be very floriferous, but the flowers are small. Hardy in the uncongenial climate of Tientsin, where it passes the winter unprotected in the open. Chinese name *Ten hong shoo mei kwei*." (*Meyer.*)

**23036.** *ROSA* sp.

**Rose.**

From Soochow, Kiangsu, China. "(No. 698, Apr. 26, 1908.) Small-leaved red rose; rare. Chinese name *Hong si ya chi*." (*Meyer.*)

**23037.** *ROSA* sp.

**Rose.**

From Soochow, Kiangsu, China. "(No. 699, Apr. 26, 1908.) Small-flowered white rose. Apparently a rambler. Chinese name *Pai si ya chi*." (*Meyer.*)

**23038.** *ROSA* sp.

**Rose.**

From Soochow, Kiangsu, China. "(No. 700, Apr. 26, 1908.) Small-flowered yellow rose. Apparently a rambler. Chinese name *Hwang si ya chi*." (*Meyer.*)

**23039. ENTEROLOBIUM CYCLOCARPUM (Jacq.) Griseb.**

From Gorgona, Canal Zone, Panama. Presented by Mr. V. Allan Rutherford. Received June 3, 1908.

"This tree grows 40 feet high, covering a radius of 20 to 30 feet, and forms a beautiful shade. It bears a pod about 5 to 6 inches and is good food for cattle. There are other peculiar features of the tree that make it valuable for shade; when 4 or 5 years old it is from 25 to 30 feet high. I think this tree would make a fine shade tree for the South and Southwestern States, where there is so much prairie land." (*Rutherford.*) (See No. 11592 for further description.)

**23040. CACARA EROSA (L.) Kuntze.**

**Hicama.**

From San Juan, P. R. Presented by Mr. Wm. Allan, through Mr. C. V. Piper. Received June 23, 1908.

See No. 22971 for description.

**23041 to 23199. SOLANUM TUBEROSUM L.**

**Potato.**

From Chile, South America. Procured by Mr. José D. Husbands, Limávida via Molina, Chile, at the request of Prof. L. C. Corbett. Received June 24, 1908.

The following tubers, descriptions of varieties by Mr. W. V. Shear:

**23041 to 23086.**

From the archipelago of Chiloé. "The archipelago of Chiloé is situated in the southern part of Chile and is the indigenous home of potato tubers (*Solanum tuberosum*). It is from here that the Spanish obtained

## 23041 to 23199—Continued.

## 23041 to 23086—Continued.

the potatoes which they took to Spain early in the sixteenth century, and thereby gave to the civilized world the 'Irish' potatoes of Chilean nativity. The flavors, size, forms, abundant production, and general excellence of 'Chiloé potatoes' are well known and justly famous; unequaled and unapproached in any part of the world, they stand alone as the highest classed potatoes known. It is surprising that all these beautiful tubers still remain solely in their original birthplace. The Chilenos have been and are still indifferent to the class of potatoes they plant and eat. The remoteness of Chiloé and the want of kindred conditions to produce like results elsewhere may play a part in the fact that Chiloé potatoes are to be found only in Chiloé. Island intercommunication is rare and extremely hazardous. Swift ocean currents run riot among them and there are also unknown rocks, exposing the voyager to perils of no ordinary character. Commerce is infrequent and deficient, as well as extremely limited, except in parts of the island of Chiloé itself. Rare and dangerous navigation is costly. Potatoes are the sole food of the inhabitants. They make bread of pounded raw potatoes mixed with a little grease. There are over 250 known wild varieties, so long cultivated as to have become classes of potatoes in the island of Chiloé alone, without considering the archipelago of Guaitecas and Chonos and the hundreds of islands which form the grand archipelago of Chiloé. The following are different wild varieties of *Solanum tuberosum*, which have become fixed classes by long cultivation." (*Husbands.*)

- 23041. Small, oblong, violet-colored tubers.
- 23042. Medium-sized, yellowish, round to oblong, flattened tubers.
- 23043. Medium-sized, long, cylindrical, white tubers.
- 23044. Round to oblong violet tubers.
- 23045. Small, roundish, uneven, deep-eyed, purple tubers.
- 23046. Small, oblong, uneven, deep-eyed, violet tubers.
- 23047. Medium-sized, round, deep-eyed, violet tubers.
- 23048. Medium-sized, oblong, compressed, deep-eyed, mottled violet and cream tubers.
- 23049. Large, roundish, smooth, white tubers, flattened on one side near stem end.
- 23050. Medium-sized, oblong, white tubers.
- 23051. Small, roundish, uneven, mottled violet tubers.
- 23052. Medium-sized, uneven, compressed, deep-dyed, pinkish mottled, russet tubers.
- 23053. Medium-sized, oblong, shallow-eyed, pink tubers.
- 23054. Medium-sized, roundish flattened, pink tubers.
- 23055. Long, cylindrical, white tubers.
- 23056. Medium-sized, round to oblong, compressed, violet tubers.
- 23057. Small to medium-sized, roundish oblong, somewhat flattened, yellow tubers.
- 23058. Medium-sized, round, flattened, medium deep eyed, mottled purple and yellow tubers.
- 23059. Medium-sized, round to oblong, uneven, white tubers.

## 23041 to 23199—Continued.

## 23041 to 23086—Continued.

- 23060. Medium-sized, oblong, white tubers.
- 23061. Medium-sized, round to oblong, light violet mottled tubers.
- 23062. Round to oblong violet-mottled tubers.
- 23063. Small, round to oblong, white tubers.
- 23064. Small, round, deep-eyed, yellow tubers.
- 23065. Medium-sized, round, yellow tubers.
- 23066. Medium-sized, cylindrical, pink tubers.
- 23067. Medium-sized, round, uneven, deep-eyed, yellow tubers.
- 23068. Medium-sized, roundish flattened, violet tubers.
- 23069. Large, round, flattened, shallow-eyed, yellow tubers.
- 23070. Medium-sized, round to oblong, violet-mottled tubers.
- 23071. Small, oblong, white tubers.
- 23072. Small, round, white tubers.
- 23073. Large, oblong, somewhat flattened, yellow tubers.
- 23074. Medium-sized, oblong, white, violet-tinged tubers.
- 23075. Small, round, yellow tubers.
- 23076. Large, oblong, flattened, mottled violet and white, shallow-eyed tubers.
- 23077. Medium-sized, round, uneven, deep-eyed, mottled violet and yellow tubers.
- 23078. Medium-sized, round, uneven, deep-eyed, pink tubers
- 23079. Medium-sized, uneven, white tubers.
- 23080. Medium-sized, round, deep-eyed, pinkish yellow tubers.
- 23081. Large, smooth, oblong, somewhat flattened, yellow tubers. Handsome.
- 23082. Medium-sized, round to oblong, somewhat flattened, yellowish tubers.
- 23083. Small, round, deep-eyed, yellow tubers.
- 23084. Small, oblong, somewhat flattened, yellow tubers.
- 23085. Medium-sized, round to oblong, smooth, yellow tubers.
- 23086. Round to oblong, deep-eyed, pink tubers.

## 23087 to 23103.

From archipelago of Chiloé. "Wild sorts annually resow their seeds, producing, by nature's care alone, limitless thousands of undomesticated tubers of every color and form, all of which are delicious eating. Among the islands there are new and distinct strains, whose tubers and plants have no similarity to known varieties. I gathered one. It had a snow-white skin with small, bright crimson eyes which were shaded with dark crimson. The flesh was sweet as sugar. The plant was upright, thick, and waxlike; the leaves were like a three-leafed clover; no one would have taken it for a potato plant. This, as well as many other kinds of wild potatoes, matures in the spring month of October, equivalent to May in the United States. All endure hard frosts, but the ground is never frozen. They remain in the wet about five months during the continuous rains of a Chilean winter, and seem to like it. In this collection there are many potatoes having a like form and appearance; they

## 23041 to 23199—Continued.

## 23087 to 23103—Continued.

are not duplicates, but are taken from different islands, or at a great distance upon the mainland, each under separate and different conditions of soil, plant food, moisture, etc. Tubers of medium to small size are included. Wild potatoes are especially fine baked. Seedlings are inclined to dissolve when boiled, more especially the black-skinned kinds, until after they have been cultivated a year or two.

"This collection is totally unknown to any botanist in Chile or to anyone except in parts of the several localities where found. Even these people seemed surprised to learn they had so many kinds of potatoes growing unknown about them. Many thousands have been dug to make up this assortment. All wild seedlings show some difference, but generally not sufficient to be classed as new strains. It would be wise, however, to plant all that grow here but for the expense and difficulties of transportation inland. Travel is confined to horseback. It is laborious and perplexing to properly arrange and transport large quantities of such tubers in a condition fit to send to the United States. They resent the slightest bruise. I do not give the names of potatoes sent, as they have no significance, being local names from the Chilote Indian dialect. In other districts having other tribes the same tubers are called by other names having no general meaning; local appellations are omitted. The potatoes sent are but selections from many kinds in their native, indigenous, uncultivated state." (*Husbands.*)

- 23087. Small, oblong, yellow, smooth tubers.
- 23088. Small, oblong, deep-eyed, mottled violet and yellow tubers.
- 23089. Small, round, violet-colored tubers.
- 23090. Small, round, violet tubers.
- 23091. Long, slender, cylindrical, violet tubers.
- 23092. Small, round, uneven, purple tubers.
- 23093. Medium-sized, oblong, pink, rather deep eyed tubers.  
Large enough for food.
- 23094. Long, curved, cylindrical, numerous and deep eyed, violet and white tubers.
- 23095. Small, round, yellow tubers.
- 23096. Small, round, flattened, pink tubers.
- 23097. Small, oblong-conical, pink tubers.
- 23098. Small, round to oblong, mottled pink and yellow tubers.
- 23099. Small, round, pinkish yellow tubers.
- 23100. Small, roundish flattened, violet tubers.
- 23101. Small, round, yellow tubers.
- 23102. Small, oblong, pinkish yellow tubers.
- 23103. Long, cylindrical, somewhat curved, deep purple tubers.

## 23104 to 23114.

From the mainland along the coast of the province of Valdivia. "In the mountainous southern province of Valdivia grow potatoes of other sorts, but still of rare excellence as to flavor, form, size, and yield. These are selected as samples representing the many kinds to be had there. Those along the coast are said to be of a richer flavor or sweeter taste

## 23041 to 23199—Continued.

## 23104 to 23114—Continued.

than those of the interior. To me, they are not unlike the Chilotes. However, I have tested so many kinds lately that they all taste alike for the moment. Some of these are extra early; none very late. In this province their names are from the Mapocho Indian dialect. The following are wild varieties which have become permanent strains by long cultivation."

(*Husbands.*)

- 23104. Large, round, deep-eyed, yellowish white tubers.
- 23105. Small, round, somewhat uneven, white tubers.
- 23106. Medium-sized, round, somewhat uneven, yellow tubers.
- 23107. Very long, rather uneven, cylindrical, pinkish yellow tubers.
- 23108. Small, oblong, white tubers.
- 23109. Medium-sized, dumb-bell shaped, violet-colored tubers.
- 23110. Medium-sized, round, uneven, yellow tubers.
- 23111. Medium-sized, round, uneven, white and violet tubers.
- 23112. Large, oblong, violet-colored tubers.
- 23113. Medium-sized, oblong, white tubers.
- 23114. Long, curved, cylindrical, numerous-eyed tubers.

## 23115 to 23120.

From the interior of the province of Valdivia. "Potatoes grown in the interior of the province of Valdivia have no especial peculiarities to describe except that they are of extra good form and very productive. While said to be of less flavor and merit than those of the coast, I believe that they are equal in quality, but have different flavors. In the entire south of Chile, including Chiloé, potatoes having red, yellow, or white skins with yellow flesh are the sweetest; boiled, baked, or fried, they are delicious. The names are Mapocho. The following are wild varieties which have become established classes by long cultivation." (*Husbands.*)

- 23115. Large, smooth, oblong, white tubers.
- 23116. Medium-sized, oblong, white tubers.
- 23117. Medium-sized, pink-colored tubers.
- 23118. Compound, medium-sized, light violet colored tubers.
- 23119. Large and small, oblong, flattened, smooth, white tubers.
- 23120. Medium-sized, round, somewhat flattened, smooth, yellow tubers.

## 23121 to 23134.

From the province of Valdivia, both coastwise and from the interior. "In wild varieties of potatoes the black predominate, nearly all of which mature in the springtime. There are many kinds formed and new ones constantly being created by self-sown seeds. Like all wild Chile potatoes they are extra-fine eating. If planted they increase in size for 4 or 5 consecutive years, at which time they reach perfection of size and fixed flavors, and may be considered as standard classes of potatoes. The following are still different wild, uncultivated varieties." (*Husbands.*)

- 23121. Very small, round, purple tubers.
- 23122. Small, round, white tubers.



## 23041 to 23199—Continued.

## 23121 to 23134—Continued.

- 23123. Small, uneven, violet-colored tubers.
- 23124. Very small, round, pinkish yellow tubers.
- 23125. Very small, round, violet-colored tubers.
- 23126. Small, round, uneven, pink tubers.
- 23127. Small, round, yellow tubers.
- 23128. Small, round, uneven, mottled violet and yellow tubers.
- 23129. Very small, round tubers; some white, some violet, and some purple with yellow eyes.
- 23130. Small, round, mottled purple and yellow tubers.
- 23131. Small, round, purple tubers.
- 23132. Small, long, cylindrical, purple tubers.
- 23133. Small, round, pinkish yellow tubers.
- 23134. Small, compound, yellow tubers.

## 23135 to 23160.

From the far interior in the vicinity of the volcano Llima. "The following are two-year-old seedlings; are a rare lot and all of superb quality. Some are extra-long keepers and do not sprout until planting time, when they are still hard and sound as when harvested.

"These are all distinct varieties. Some have very little plant growth and are great yielders. They will continue to improve by planting. Many are regular in size. In this province potatoes bear names from the Pehuencha Indian dialect." (*Husbands.*)

- 23135. Medium-sized, compound, violet-yellow tubers.
- 23136. Small, round, violet tubers.
- 23137. Small, round, white tubers.
- 23138. Medium-sized, round to oblong, yellow, deep-eyed tubers.
- 23139. Small, oblong, violet tubers.
- 23140. Medium-sized, pinkish yellow, deep-eyed tubers.
- 23141. Medium-sized, oblong, smooth, violet-colored tubers.
- 23142. Small, round to oblong, smooth, yellow tubers.
- 23143. Very small, round, violet-colored tubers.
- 23144. Very small, round, smooth, violet-colored tubers.
- 23145. Medium-sized, uneven, deep-eyed, yellow tubers.
- 23146. Medium-sized, uneven, yellowish tubers.
- 23147. Small, round, smooth, yellowish tubers.
- 23148. Small, round, smooth, some yellowish and some violet-colored tubers.
- 23149. Medium-sized, oblong, yellowish tubers.
- 23150. Medium-sized, smooth, round, violet-colored tubers.
- 23151. Medium-sized, round, smooth, medium deep eyed, violet-yellow tubers.
- 23152. Medium-sized, oblong, smooth, many medium deep eyed, yellowish tubers. "A long keeper."
- 23153. Small, round, mottled violet and yellow tubers.



## 23041 to 23199—Continued.

## 23135 to 23160—Continued.

- 23154. Medium-sized, oblong, flattened, violet tubers.
- 23155. Medium-sized, small, oblong, smooth, shallow-eyed, netted-skinned, violet-tinged tubers.
- 23156. Small, round, violet-tinged tubers.
- 23157. Small, oblong, yellowish tubers.
- 23158. Medium-sized, oblong, flattened, smooth, violet-colored tubers.
- 23159. Medium-sized, round, somewhat uneven, yellowish tubers.
- 23160. Medium-sized, oblong, numerous and deep-eyed, yellowish tubers.

## 23161.

From the far interior in the vicinity of the volcano Llima. "A potato from the United States which by being cultivated in Chile has completely changed its shape and flavor. These are sent as samples of what changes may be made by transplanting from a distant part to another having distinct and different conditions in climate, seasons, soil foods, etc. For example, from seaward to remote inland; plain to mountain; and vice versa." (*Husbands.*)

Large, smooth, oblong, flattened, white tubers.

## 23162.

"A potato from Germany. Originally a round, black-skinned variety. Grown but one year in Chile: still, changes have already commenced." (*Husbands.*)

Medium-sized, oblong, pale violet colored, smooth tubers.

## 23163.

"A potato from England. *Nignum bonum*. Long cultivated in Chile, it has completely changed by deterioration instead of the usual improvement. From among those taken from the hills, as planted and grown, are found ill-shaped, worthless sorts, suggesting that it has grown back to the worst wild varieties." (*Husbands.*)

Small, white, round to oblong tubers.

## 23164.

"A southern Chilean potato of a very fine kind, but its irregular shape made it almost useless. Being from the mountainous interior, I removed it to a point far distant upon the seacoast and am making a good-shaped tuber of it." (*Husbands.*)

Medium-sized, oblong, pointed, smooth, shallow-eyed, violet-pink tuber.

## 23165.

"A Chilean potato of unknown origin." (*Husbands.*)

Very large, oblong, violet-colored tubers.

## 23166.

"*Papas Blancos*, white potato. The class most generally cultivated in central Chile." (*Husbands.*)

Medium-sized, oblong, white, numerous, and rather deep-eyed tubers.

## 23167 to 23199.

"Seeds are very scarce at the time potatoes should be gathered. All the following are worth sowing and the seedlings planted and replanted

**23041 to 23199—Continued.****23167 to 23199—Continued.**

again before throwing them aside. Many a great man was once a worthless baby." (*Husbands.*)

**23167 to 23169.**

Seed of cultivated kinds.

**23170 and 23171.**

Seed from cultivated seedlings.

**23172 to 23194.**

Seed from wild varieties.

**23195 to 23198.**

Seed from Chiloé, wild varieties.

**23199.**

Seed of a wild variety.

**23201. MELINIS MINUTIFLORA Beauv.**

From São Paulo, Brazil. Presented by Dr. H. M. Lane, president, Mackenzie College, through Mr. C. V. Piper. Received June 22, 1908.

"This is known as *Capim catingueiro*, or *melado*, or *gordura*, one of the best forage grasses of this section. It grows well on poor ground and will stand long absence of rain. It also makes good hay." (*Lane.*)

**23202. LITCHI CHINENSIS Sonner.****Leitchsee.**

From Honolulu, Hawaii. Procured by Mr. J. E. Higgins, horticulturist, Hawaii Experiment Station. Received June 25, 1908.

"Seeds of the large-seeded variety." (*Higgins.*) (For description see Nos. 10670 to 10673, 14888, and 16237 to 16243.)

**23203. MEDICAGO SATIVA L.****Alfalfa.**

From Turkestan. Purchased from Mr. H. W. Duerrschmidt, Tashkend, Turkestan. Received June 24, 1908.

*Turkestan.* "Werny or Tschilik alfalfa, from the most northern alfalfa-producing part of Turkestan." (*Duerrschmidt.*)

**23204. TRIGONELLA FOENUM-GRÆCUM L.****Fenugreek.**

From Tunis, Tunis. Presented by Mr. F. Foëx, National School of Agriculture, Mexico City, Mexico. Received June 15, 1908.

See No. 7029 for description.

**23205. GLYCINE HISPIDA (Moench) Maxim.****Soy bean.**

From Shanghai, Kiangsu, China. Presented by Dr. S. P. Barchet, interpreter, American consulate. Received June 30, 1908.

"Similar in appearance to *Ebony*, No. 17254." (*Nielsen.*)

"An important bean for dry rice land. Chinese name *Pu chi*." (*Barchet.*)

**23206. CUCUMIS MELO L.**

From Afghanistan. Presented by Mr. L. A. Ault, president, The Ault & Wiborg Company, Cincinnati, Ohio. Received June 29, 1908.

"I ran across this melon in Peshawar, and taken altogether it is the most delicious fruit in the way of a melon that I have ever tasted." (*Ault.*)

## 23207 to 23232.

From China. Received through Mr. Frank N. Meyer, agricultural explorer, and brought by him to the Plant Introduction Garden, Chico, Cal., June, 1908. Forwarded to Washington, D. C., and received July 6, 1908.

The following seeds:

23207. *GLYCINE HISPIDA* (Moench) Maxim. Soy bean.

From Soochow, Kiangsu, China. "(No. 960a, Apr. 27, 1907.) A large, greenish soy bean, grown around Soochow on the rather low-lying lands. Used when slightly sprouted as a vegetable. Chinese name *Tsin tou*." (Meyer.)

23208. *GLYCINE HISPIDA* (Moench) Maxim. Soy bean.

From Tangsi, Chehkiang, China. "(No. 961a, Apr. 20, 1908.) A large, yellow soy bean, often purplish colored on one side. Considered locally a very good variety. Chinese name *Sian chu tou*. Grows on the ridges around inundated rice fields." (Meyer.)

23209. *GLYCINE HISPIDA* (Moench) Maxim. Soy bean.

From Tangsi, Chehkiang, China. "(No. 962a, Apr. 20, 1908.) The ordinary variety of yellow soy bean as grown around Tangsi on the ridges and strips of land around and between inundated rice fields. Chinese name *Huang tou*." (Meyer.)

23210. *PHASEOLUS ANGULARIS* (Willd.) W. F. Wight. (*DOLICHOS ANGULARIS* Willd.)

From Tangsi, Chehkiang, China. "(No. 963a, Apr. 20, 1908.) Different varieties of small beans, grown by the Chinese on the higher lands in the neighborhood of Tangsi. Used as a vegetable when sprouted; also boiled in soups, and when pounded up with sugar it is used as a sweetmeat in cakes and pastry. Chinese name *Chi tou*." (Meyer.)

23211. *GLYCINE HISPIDA* (Moench) Maxim. Soy bean.

From Tangsi, Chehkiang, China. "(No. 964a, Apr. 20, 1908.) A very dark brown colored soy bean, grown near Tangsi; said to be very productive. Chinese name *Tsze pi tou*." (Meyer.)

23212. *GLYCINE HISPIDA* (Moench) Maxim. Soy bean.

From Hangchow, Chehkiang, China. "(No. 965a, Apr. 24, 1908.) An early-ripening, yellow soy bean, called the sixth month's bean, meaning ripening in the Chinese sixth month (our July). Chinese name *Lu ya pai mou tou*." (Meyer.)

23213. *GLYCINE HISPIDA* (Moench) Maxim. Soy bean.

From Hangchow, Chehkiang, China. "(No. 966a, Apr. 24, 1908.) A yellow soy bean called the seventh month's bean, meaning ripening in the Chinese seventh month (our August). Called in Chinese *Chi ya pai mou tou*." (Meyer.)

23214. *VIGNA SESQUIPEDALIS* (L.) W. F. Wight.

From Tangsi, Chehkiang, China. "(No. 967a, Apr. 20, 1908.) Chinese string beans, used as a green vegetable like the western kinds. Chinese name *Chang Kiang tou*." (Meyer.)

23215. *DOLICHOS LABLAB* L.

From Tangsi, Chehkiang, China. "(No. 968a, Apr. 20, 1908.) A white bean which is mostly grown for its green pods, which are sliced or broken and when boiled furnish an agreeable vegetable. The dried beans are

## 23207 to 23232—Continued.

also sparingly used in soups, but only by the better classes, as they are rather expensive. Chinese name *Pai pien tou*." (Meyer.)

## 23216. CANAVALI ENSIFORME (L.) DC.

From Tangsi, Chehkiang, China. "(No. 969a, Apr. 20, 1908.) A very rare edible bean, used mainly as a stomach-strengthening food, and for this reason only to be had in medicine shops. Said to be an erect grower (?). Chinese name *Tau tou*." (Meyer.)

## 23217. STIZOLOBIUM sp. (?)

From Mokanshan, Chehkiang, China. "(No. 970a, Apr. 22, 1908.) A wild climbing bean found in a thicket. The pods are covered with bristling hairs, which break off easily in one's skin, but do not cause any harm." (Meyer.)

## 23218. SAPIUM SEBIFERUM (L.) Roxb.

Tallow tree.

From Tangsi, Chehkiang, China. "(No. 971a, Apr. 23, 1908.) The tallow tree, the seeds of which yield a valuable fatty substance. Grown extensively along the canals in the Chehkiang Province. The best varieties are top-grafted upon seedling stock." (Meyer.)

23219. FIRMIANA SIMPLEX (L.) W. F. Wight. (HIBISCUS SIMPLEX L.)  
(STERCULIA PLATANIFOLIA L. f.)

From Soochow, Kiangsu, China. "(No. 972a, Apr. 27, 1908.) Seeds of a tree called in Chinese *Wu tung tsze*; they are sold in one or two shops as a delicatessen, but are not very tasty. They may turn out to be the ordinary *Firmiana simplex* (L.) (*Hibiscus simplex* L.), which is a great favorite with the Chinese as a shade tree in temple gardens and in court-yards." (Meyer.)

## 23220. PINUS KORAIENSIS S. &amp; Z.

From Soochow, Kiangsu, China. "(No. 973a, Apr. 27, 1908.) Sold as a delicatessen by a few shops, and as such they are not bad. Said to come from Shantung, but I suspect them to have been collected in eastern Siberia from *Pinus mandshurica* or an allied form. Chinese name *Sung tsze*." (Meyer.)

## 23221. CITRULLUS VULGARIS Schrad.

Watermelon.

From Hangchow, Chehkiang, China. "(No. 974a, Apr. 24, 1908.) Said to be a very fine variety of yellow-fleshed watermelon. Grown around Hangchow on rather low lands. Chinese name *Huang si kua*." (Meyer.)

## 23222. CITRULLUS VULGARIS Schrad.

Watermelon.

From Tangsi, Chehkiang, China. "(No. 975a, Apr. 20, 1908.) A watermelon with yellow flesh, said to be good; growing on low fields around Tangsi. Chinese name *Huang lien kua*." (Meyer.)

## 23223. CITRULLUS VULGARIS Schrad.

Watermelon.

From Hangchow, Chehkiang, China. "(No. 976a, Apr. 24, 1908.) Said to be a very fine white-fleshed watermelon. Grown around Hangchow on rather low lands. Chinese name *Pai si kua*." (Meyer.)

## 23224. CITRULLUS VULGARIS Schrad.

Watermelon.

From Tangsi, Chehkiang, China. "(No. 977a, Apr. 20, 1908.) A white-fleshed watermelon, grown on low fields around Tangsi. Chinese name *San pai tsa kua*." (Meyer.)

## 23207 to 23232—Continued.

## 23225. CITRULLUS VULGARIS Schrad.

Watermelon.

From Tangsi, Chehkiang, China. "(No. 978a, Apr. 20, 1908.) A red-meated watermelon, grown on lowlands around Tangsi. Chinese name *Wu pi hong lien kua*.

"The region around Tangsi is famous for its good watermelons. Test Nos. 975a, 977a, and 978a (S. P. I. Nos. 23222, 23224, and 23225) on lowlands in the South." (Meyer.)

## 23226. ASTRAGALUS SINICUS L.

From Hangchow, Chehkiang, China. "(No. 979a, Apr. 24, 1908.) A red-flowered leguminous plant; grows wild on lowlands; is also used as a fertilization crop on low-lying fields, being plowed under as a fertilizer for rice. The young leaves are much eaten as a vegetable. Chinese name *Huang tsai*." (Meyer.)

## 23227. ASTRAGALUS SINICUS L.

From Hangchow, Chehkiang, China. "(No. 980a, Apr. 24, 1908.) A leguminous plant, said to bear red flowers, probably a form of No. 979a (S. P. I. No. 23226); as such give it the same treatment. Chinese name *Hong tsai*, which is probably fictitious." (Meyer.)

## 23228. SESAMUM ORIENTALE L.

Sesame.

From Tientsin, Chihli, China. "(No. 981a, Apr. 4, 1908.) White sesame seed for a trial in the semiarid Southwestern States. These seeds contain a fine, sweet oil, excellent for culinary purposes. The seeds themselves can be used in the making of candies, taffies, and as a sprinkling on cakes. Chinese name *Pai tse ma*." (Meyer.)

## 23229. GLYCINE HISPIDA (Moench) Maxim.

Soy bean.

From Tientsin, Chihli, China. "(No. 982a, Apr. 4, 1908.) A dark brown colored soy bean; rare. Said to grow near Tientsin. Used for human food; boiled in soups or as a vegetable when slightly sprouted. Chinese name *Tse doh*." (Meyer.)

## 23230. ANDROPOGON SORGHUM (L.) Brot.

Kowliang.

*Brown.*

From Chusan Islands, China. "(No. 983a, April, 1908.) A tall-growing variety of sorghum, coming from the Chusan Islands, called *Chang tsun*. Obtained from Dr. S. P. Barchet at Shanghai, China." (Meyer.)

## 23231. ANDROPOGON SORGHUM (L.) Brot.

Kowliang.

*Brown.*

From Chusan Islands, China. "(No. 984a, April, 1908.) A dwarfy form of a sorghum, coming from the Chusan Islands, called *Tuan tsun*. Obtained from Dr. S. P. Barchet at Shanghai, China." (Meyer.)

## 23232. GLYCINE HISPIDA (Moench) Maxim.

Soy bean.

From Shanghai, Kiangsu, China. "(No. 985a, May 11, 1908.) The Barchet soy bean, growing on wet rice lands. Chinese name *Ma liao tou*. Obtained through Dr. S. P. Barchet, of Shanghai, who procured these soy beans from Chinhuafu, in the Chehkiang Province, central China." (Meyer.)



## 23233 to 23262.

## Bamboo.

From China. Received through Mr. Frank N. Meyer, agricultural explorer, June, 1908, and brought by him from China to the Plant Introduction Garden, Chico, Cal.

The following plants:

## 23233.

From vicinity of Tangsi, Chehkiang, China. "(No. 301, autumn, 1907.) Timber bamboo. Chinese name *Mao tsoh*. The largest and most common kind; attains a height of 100 feet and a diameter at its base of 6 to 8 inches; grows only on mountain slopes, preferably in a rich red loam. Used in many, many ways; for instance, in the manufacture of big ladders, water pipes, gutters, tiles on roofs, construction material for large sheds, etc." (Meyer.)

## 23234.

From vicinity of Tangsi, Chehkiang, China. "(No. 302, autumn, 1907.) Timber bamboo. Second in size of the timber bamboos; grows in valleys and at the foot of mountains. Chinese name *Tae tsoh*. This is utilized in furniture manufacture and for poles and boat-hook handles." (Meyer.)

## 23235.

From vicinity of Tangsi, Chehkiang, China. "(No. 303, autumn, 1907.) A timber bamboo, resembling very much the preceding one (S. P. I. No. 23234). Grows on flat, level land and has a very open stand. Is used for tool handles, small light ladders, etc. Chinese name *Tae tsoh* and also *Kang tsoh*." (Meyer.)

## 23236.

From vicinity of Tangsi, Chehkiang, China. "(No. 304, autumn, 1907.) Timber bamboo, having long joints, but not a large-growing kind. Much used for basket manufacture when the stems have been split up in long, narrow, flexible strips. Chinese name *Wang kon tsoh*." (Meyer.)

## 23237.

From vicinity of Tangsi, Chehkiang, China. "(No. 305, autumn, 1907.) Timber bamboo, called the *Stone* bamboo, on account of the stems being very hard. Mostly used in the manufacture of fine bamboo furniture, it being a very strong kind. Chinese name *Sah tsoh*." (Meyer.)

## 23238.

From vicinity of Tangsi, Chehkiang, China. "(No. 306, autumn, 1907.) Timber bamboo. A variety called the *Wooden* bamboo, having solid stems. It is rather small but strong. Chinese name *Moh tsoh*." (Meyer.)

## 23239.

From vicinity of Tangsi, Chehkiang, China. "(No. 307, autumn, 1907.) A small but strong variety, called the *Bitter* bamboo. Chinese name *Kow tsoh*." (Meyer.)

## 23240. PHYLLOSTACHYS NIGRA (Lodd.) Munro.

From vicinity of Tangsi, Chehkiang, China. "(No. 308, autumn, 1907.) Timber bamboo. A small but strong variety, growing on mountain slopes. Used for making walking canes, pipstems, and fancy articles. Chinese name *Yu tsoh*, meaning oil bamboo, on account of its shining stems." (Meyer.)



## 23233 to 23262—Continued.

23241.

From vicinity of Tangsi, Chehkiang, China. "(No. 309, autumn, 1907.) A bamboo growing on rich plains and producing edible shoots. Chinese name *Mao tchin tsoh*." (Meyer.)

23242.

From vicinity of Tangsi, Chehkiang, China. "(No. 310, autumn, 1907.) Vegetable bamboo. An edible bamboo growing on the plains. Chinese name *Oo chin tsoh*." (Meyer.)

23243.

From Tangsi, Chehkiang, China. "(No. 311, autumn, 1907.) Vegetable bamboo. The ordinary edible bamboo grown in nearly every back yard in central China. Chinese name *Pah koh poo chi*." (Meyer.)

23244.

From Tangsi, Chehkiang, China. "(No. 312, autumn, 1907.) Vegetable bamboo. Another common, edible bamboo, abounding on the plains. Chinese name *Hua koh poo chi*." (Meyer.)

23245.

From vicinity of Tangsi, Chehkiang, China. "(No. 313, autumn, 1907.) Vegetable bamboo. A very early variety, producing edible sprouts. Chinese name *Tsao ri tsoh*." (Meyer.)

23246.

From vicinity of Tangsi, Chehkiang, China. "(No. 314, autumn, 1907.) Ornamental bamboo, called the *Purple* bamboo, on account of having bronze reddish colored stems. Nice when in a clump. Chinese name *Tsi tsoh*." (Meyer.)

23247.

From vicinity of Tangsi, Chehkiang, China. "(No. 315, autumn, 1907.) Ornamental bamboo. The stems of this small, ornamental bamboo are used for pipestems and canes. Chinese name *Mae loh tsoh*." (Meyer.)

23248.

From vicinity of Tangsi, Chehkiang, China. "(No. 316, autumn, 1907.) Ornamental bamboo. The noted square bamboo, which is difficult to grow; requires partial shade. The stems are used for canes and pipestems. Chinese name *Fang tsoh*." (Meyer.)

23249.

From vicinity of Tangsi, Chehkiang, China. "(No. 317, autumn, 1907.) Ornamental bamboo. A variety called the *Honey* bamboo. Chinese name *Mih tsoh*." (Meyer.)

23250.

From Tangsi, Chehkiang, China. "(No. 318, autumn, 1907.) A low-growing bamboo, the leaves of which are used for wrapping rice, flour, or millet dumplings, the same as the Mexicans use the hull leaves of the corncobs to boil their tamales in. Chinese name *Tsong mah tsoh*." (Meyer.)

23251.

From Ningpo, Chehkiang, China. "(No. 319, autumn, 1907.) A bamboo from Ningpo, called *Wu tsoh*." (Meyer.)

## 23233 to 23262—Continued.

23252.

From Ningpo, Chehkiang, China. "(No. 320, autumn, 1907.) A bamboo from Ningpo, called *Loong su tsoh*. A tall, yellow-stemmed variety." (Meyer.)

23253.

From Ningpo, Chehkiang, China. "(No. 321, autumn, 1907.) A bamboo from Ningpo, called *Tsin tsoh*." (Meyer.)

23254.

From Ningpo, Chehkiang, China. "(No. 322, autumn, 1907.) A bamboo from Ningpo, called *Huang ho tsoh*." (Meyer.)

23255.

From Ningpo, Chehkiang, China. "(No. 323, autumn, 1907.) A bamboo from Ningpo, called *Man tsoh*." (Meyer.)

23256.

From Ningpo, Chehkiang, China. "(No. 324, autumn, 1907.) A bamboo from Ningpo, called *Tan tsoh*. A tall-growing, green-stemmed variety." (Meyer.)

23257.

From Ningpo, Chehkiang, China. "(No. 325, autumn, 1907.) A bamboo from Ningpo, called *Tsze tsoh*. A tall, purple-stemmed variety." (Meyer.)

23258.

From Ningpo, Chehkiang, China. "(No. 326, autumn, 1907.) A bamboo from Ningpo, called *Mei lu tsoh*. A variety having spotted stems." (Meyer.)

23259.

From Ningpo, Chehkiang, China. "(No. 327, autumn, 1907.) A bamboo from Ningpo, without name." (Meyer.)

23260.

From Hangchow, Chehkiang, China. "(No. 328, June 28, 1907.) Square bamboo. Obtained from Dr. Duncan Main at Hangchow. For further remarks see No. 316 (S. P. I. No. 23248)." (Meyer.)

23261.

From Fengtai, near Peking, Chihli, China. "(No. 329, June 1, 1907, and Mar. 31, 1908.) The so-called *Hardy* bamboo, growing in gardens in and around Peking and Tientsin, where the climatic conditions are not what might be called favorable for the growth of bamboos. These plants may be trusted to be hardy as far north as Philadelphia, and can be grown commercially farther south, perhaps, to supply flower stakes. Chinese name *Chu tse*." (Meyer.)

23262.

From Soochow, Kiangsu, China. "(No. 330, Apr. 26, 1908.) A very dwarf bamboo, grown in pots and other vessels as an ornamental plant where it rarely reaches over 1 foot in height; when planted out it seems to grow higher. Chinese name *Feng pi chu*." (Meyer.)

**23263. NOTHOFAGUS OBLIQUA (Mirb.) Bl.**

From Santa Ines, Chile. Presented by Señor Salvador Izquierdo. Received June 29, 1908.

"The *Roble* of Chile, called *Coyam* by the original inhabitants. It is a tall tree with a straight stem, attaining 3 to 4 feet diameter. The wood is heavy and durable, well adapted for posts, beams, girders, rafters, and joists, but not for flooring. One of the few Chilean trees with deciduous foliage." (*Doctor Philippi*.)

**23267 to 23289.**

From Chile, South America. Presented by Mr. José D. Husbands, Lima-vida via Molina, through Mr. C. V. Piper. Received June 24, 1908.

The following seeds:

23267. *ZEA MAYS* L.

Indian corn.

23268. *NOTHOFAGUS OBLIQUA* (Mirb.) Bl.

"Chilean red oak."

See No. 23263 for description.

23269. *QUILLAJA SAPONARIA* Mol.

Quillai.

"A colossal tree, fit not only for loamy but also sandy and peaty soil. The bark is rich in saponin, and therefore valuable for dressing wool and silk; also for various cleansing processes." (*Von Mueller*.)

23270. *KAGENECKIA OBLONGA* Ruiz & Pav.

Bollen.

"This is allied to *Quillaja saponaria*, and provides tan bark locally." (*Dr. J. A. de los Rios*.)

23271. *DRIMYS CHILENSIS* DC.

Canelo.

"This tree attains in river valleys a height of 60 feet. The wood is never attacked by insects. Bark used for medicinal purposes." (*Extract from Von Mueller*.)

23272. *MAYTENUS BOARIA* Mol.

Maiten.

See No. 3394 for description.

23273. *CRINODENDRON PATAGUA* Mol.

Patagua.

See No. 3354 for description.

23274. *RHEUM* sp. (?)

23275. *TRITICUM POLONICUM* L. (?)

Wheat.

23276. *TRITICUM POLONICUM* L. (?)

Wheat.

23277. *ERODIUM MOSCHATUM* (L.) L'Herit.

Alfilerilla.

23278. *MELILOTUS INDICA* (L.) All.

23279. *MELILOTUS INDICA* (L.) All.

23280 to 23284. *MEDICAGO ARABICA* (L.) All.

23285. (Undetermined.)

Grass.

23286. (Undetermined.)

Grass.

23287. *TRIFOLIUM PRATENSE* L.

Red clover.

23288. *TRIFOLIUM* sp. (?)

23289. *TRIFOLIUM PRATENSE* L. (?)

"Wild pink clover."

## 23290 to 23312.

From China. Received through Mr. Frank N. Meyer, agricultural explorer, and brought by him to the Plant Introduction Garden, Chico, Cal., June, 1908; forwarded to Washington, D. C., and received July 6, 1908.

The following seeds:

23290. *PISUM ARVENSE* L. Field pea.

From Wutaishan, Shansi, China. "(No. 921a, Feb. 26, 1908.) Peas used as a food, either sprouted or boiled as they are. Grow at 5,000 to 6,000 feet elevation. Chinese name *Wau doh*." (Meyer.)

23291. *GLYCINE HISPIDA* (Moench) Maxim. Soy bean.

From Wutaishan, Shansi, China. "(No. 922a, Feb. 26, 1908.) Black soy bean, growing at 5,000 to 6,000 feet elevation. Are considered by the Chinese the best food for their hard-working mules and horses; they must always be boiled before being fed to the animals; otherwise they may cause colic; the Chinese also mix a liberal quantity of sorghum seed and chopped straw with these beans. Chinese name *Ghae doh*." (Meyer.)

23292. *GLYCINE HISPIDA* (Moench) Maxim. Soy bean.

From Wutaishan, Shansi, China. "(No. 923a, Feb. 26, 1908.) Yellow soy bean. Growing at 5,000 to 6,000 feet elevation. They are used all through northern China for making bean curd and bean vermicelli. Chinese name *Huang doh*." (Meyer.)

23293. *PHASEOLUS VULGARIS* L. Bean.

From Wutaishan, Shansi, China. "(No. 924a, Feb. 26, 1908.) Red beans, growing at 5,000 to 6,000 feet elevation; they like a black, rich soil. Used as a vegetable when boiled. Chinese name *Lien doh*." (Meyer.)

23294. *VICIA FABA* L. Horse bean.

From Wutaishan, Shansi, China. "(No. 925a, Feb. 26, 1908.) A small horse bean, growing at 5,000 to 6,000 feet elevation. Mostly used as a delicatessen after having been roasted with oil and salt; also eaten as a vegetable when slightly sprouted." (Meyer.)

23295. *AVENA NUDA INERMIS* (Koern.) Asch. & Graeb. Naked oat.

From Wutaishan, Shansi, China. "(No. 926a, Feb. 26, 1908.) These oats grow all through the higher mountain districts and form the staple food of the natives; they require apparently a short season for maturing and seem to thrive in quite sterile locations. Chinese name *Yoh ma*." (Meyer.)

23296. *GLYCINE HISPIDA* (Moench) Maxim. Soy bean.

From Taichou, Shansi, China. "(No. 929a, Mar. 2, 1908.) Yellow soy beans, found growing on strongly alkaline lands. Chinese name *Huang doh*. For further remarks see No. 923a (S. P. I. No. 23292)." (Meyer.)

23297. *GLYCINE HISPIDA* (Moench) Maxim. Soy bean.

From Taichou, Shansi, China. "(No. 930a, Mar. 2, 1908.) Black soy bean. Grows on strongly alkaline lands. Chinese name *Ghae doh*. For further remarks concerning their uses see No. 922a (S. P. I. No. 23291)." (Meyer.)

23298. *CANNABIS SATIVA* L. Hemp.

From Soolungko, Shansi, Kwohsien District, China. "(No. 931a, Mar. 3, 1908.) Found growing in mountain valleys and considered a good hemp. Chinese name *Shan ma tse*." (Meyer.)

## 23290 to 23312—Continued.

23299. *GLYCINE HISPIDA* (Moench) Maxim.

Soy bean.

From Tsintse, Shansi, south of Taiyuanfu, China. "(No. 933a, Mar. 12, 1908.) Black and yellow. A rare local variety of a strange soy bean used as a vegetable when slightly sprouted, and after having been scalded for a few minutes in boiling water is eaten with a salt sauce; the skin must be removed before scalding. Chinese name *Yang yen doh*, meaning sheep's eye bean." (Meyer.)

23300. *PANICUM MILIACEUM* L.

From the plains of northern China. "(No. 943a, autumn, 1907.) Hulled drooping millet. Is eaten all over northern China as a high-class food. Boiled very often with Chinese dates; small, sticky, sweet cakes and simple wholesome candies are also prepared from this grain; tastes very good with milk and sugar as a breakfast or light evening food and may also serve as an infant's food. Chinese name *Huang mi*." (Meyer.)

23301. *PHASEOLUS ANGULARIS* (Willd.) W. F. Wight.

From Hupehko, Chihli, China. "(No. 947a, Dec. 13, 1907.) A large variety of a gray-blackish bean, which is able to grow on rather sandy and on alkaline lands. Is used as a vegetable when sprouted; also pounded up with sugar and used in small cakes as a stuffing. Chinese name *Ghae shau doh*." (Meyer.)

23302. *PHASEOLUS VULGARIS* L.

From Hupehko, Chihli, China. "(No. 948a, Dec. 13, 1907.) A large, white bean, used as a vegetable boiled in soups. Growing on sandy and on alkaline lands. Chinese name *Ta pai doh*." (Meyer.)

23303. *GLYCINE HISPIDA* (Moench) Maxim.

Soy bean.

From Shiling, Chihli, China. "(No. 949a, Jan. 25, 1908.) Yellow soy bean. Chinese name *Ta huang doh*. For further remarks see No. 923a (S. P. I. No. 23292)." (Meyer.)

23304. *PHASEOLUS ANGULARIS* (Willd.) W. F. Wight.

From Peking, Chihli, China. "(No. 950a, Feb. 8, 1908.) A small, red bean, which is used as a sweetmeat and as a stuffing in cakes. Chinese name *Hong shau doh*." (Meyer.)

23305. *GLYCINE HISPIDA* (Moench) Maxim.

Soy bean.

From Peking, Chihli, China. "(No. 951a, Feb. 8, 1908.) Large, light yellow soy bean. Used mostly as a vegetable when slightly germinated, and eaten with a salt sauce. Chinese name *Ta huang doh*." (Meyer.)

23306. *GLYCINE HISPIDA* (Moench) Maxim.

Soy bean.

From Peking, Chihli, China. "(No. 952a, Feb. 8, 1908.) Large, black soy bean, green inside. Comes from Manchuria and is used mostly like the preceding number (S. P. I. No. 23305.) Chinese name *Ta ghae doh*." (Meyer.)

23307. *VIGNA UNGUICULATA* (L.) Walp.

Cowpea.

From Peking, Chihli, China. "(No. 933a, Feb. 8, 1908.) Mottled. A rather rare variety, used like No. 950a (S. P. I. No. 23304). Chinese name *Hua Chiang doh*." (Meyer.)

## 23290 to 23312—Continued.

## 23308. PHASEOLUS VULGARIS L.

From Peking, Chihli, China. "(No. 954a, Feb. 8, 1908.) Lemon-colored beans. A rare variety used as a vegetable in soups. Chinese name *Huang yueng doh*." (Meyer.)

## 23309. GOSSYPIUM HIRSUTUM L.

Cotton.

From Pingkuhsien, Chihli, China. "(No. 955a, Nov. 7, 1907.) The ordinary short-fibered variety of cotton grown all over northern China. Chinese name *Ta tse mien hua*." (Meyer.)

## 23310. GOSSYPIUM INDICUM Lam.

Cotton.

From Pingkuhsien, Chihli, China. "(No. 956a, Nov. 7, 1907.) A very good variety of cotton, being long fibered and silky. The city of Pingkuhsien is famous throughout North China for the cotton cloth made from this variety. Chinese name *Chan yung mien hua*." (Meyer.)

## 23311. GLYCINE HISPIDA (Moench) Maxim.

Soy bean.

From Shiling, Chihli, China. "(No. 957a, Jan. 25, 1908.) Large, green soy bean. Used as a vegetable when slightly sprouted, after having been scalded in boiling water. Chinese name *Ta ching doh*." (Meyer.)

## 23312. GLYCINE HISPIDA (Moench) Maxim.

Soy bean.

From Pautingfu, Chihli, China. "(No. 958a, Jan. 28, 1908.) A rare, local variety of soy bean, being small and of greenish yellow color. Chinese name *Shau ching doh*." (Meyer.)

## 23313 to 23315.

From Bangalore, British India. Presented by the superintendent of the Mysore Government Botanical Gardens. Received June 25, 1908.

The following seeds:

## 23313. BAUHINIA MONANDRA Kurz. (?)

"Leaves round-ovate, truncate at base. Racemes short, terminal, pubescent. Petals  $1\frac{1}{4}$  inches, probably whitish." (J. G. Baker, in *Fl. Brit. Ind.*)

## 23314. MANIHOT GLAZIOVII Muell. Arg.

Ceara rubber.

"Ceara rubber has not been cultivated in the West Indies to any extent, but it is like cassava in its capability of growing in dry, sandy soil. It would probably yield more rubber if grown in districts where irrigation is possible." (Wm. Fawcett, in *Bailey*.)

## 23315. SAPINDUS TRIFOLIATA L.

Soapnut tree.

"A stout tree, native of India. Leaves alternate, pinnate. Flowers dull white. Berries the size of a cherry, saponaceous.

"This fruit is used in southern India as a substitute for soap. An oil is also extracted from the berries. The wood is yellow and hard and is used in house building and for combs, boxes, etc." (G. Watt, *Dict. Econ. Prod. Ind.*)



**23316 to 23322.**

From Guatemala, South America. Collected by Dr. W. A. Kellerman.  
Received through Dr. J. N. Rose, U. S. National Herbarium, June 25, 1908.

**23316 to 23320.**

**Cactus.**

The following cacti were introduced for investigation as to their possible value for forage:

**23316.**

From El Rancho. "*Old Man* cactus. (No. 7061, Jan. 12, 1908.)  
Fruit red, depressed globular, smooth (no prickles),  $1\frac{1}{2}$  inches in diameter." (*Kellerman.*)

**23317.**

From El Rancho. (Kellerman's No. 7055, Jan. 12, 1908.)

**23318.**

"Cuttings of S. P. I. No. 23317. Very spiny and prickly."  
(*Young.*)

**23319.**

From Los Amates. (Kellerman's No. 7107, Feb. 15, 1908.)

**23320.**

From Antigua. "(No. 7117.) A spineless cactus found climbing over stone fences." (*Kellerman.*)

**23321 and 23322. DAHLIA sp.**

**Dahlia.**

**23321.**

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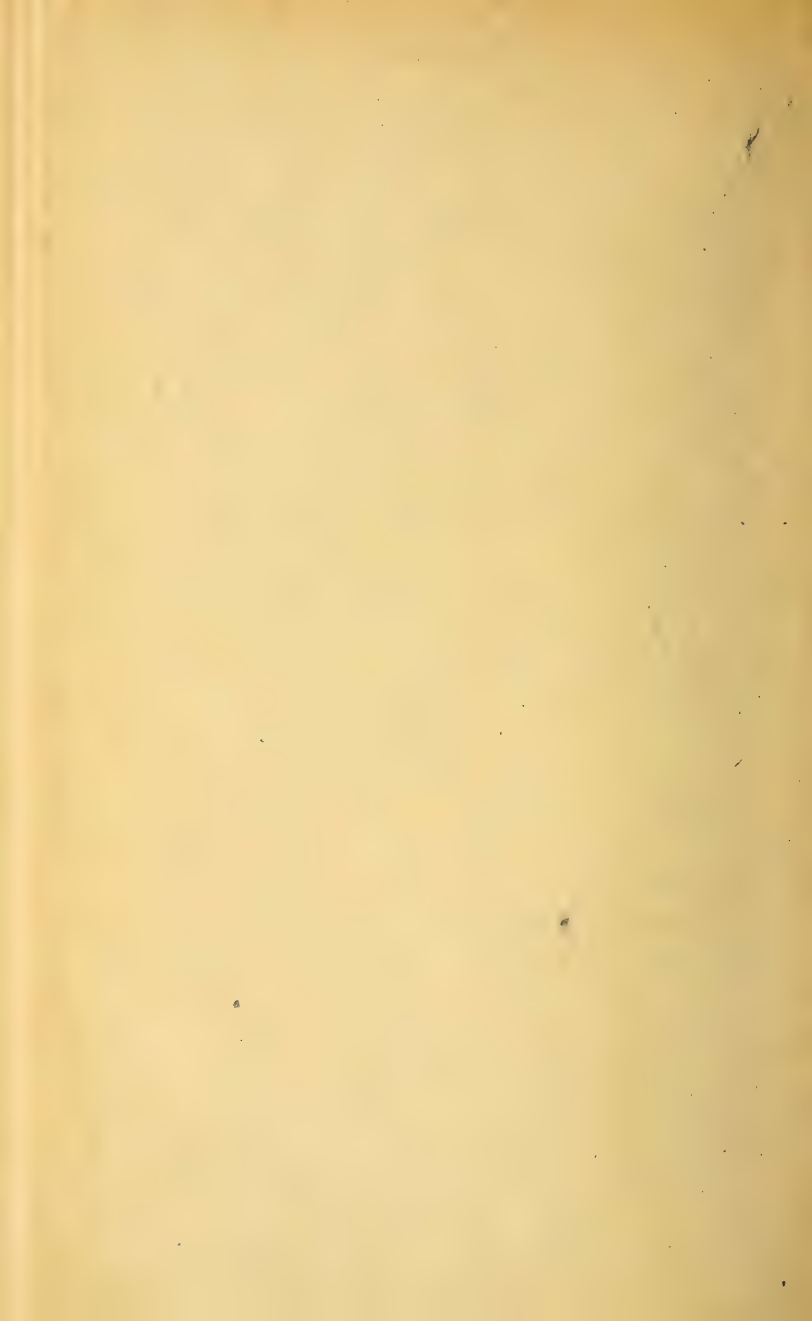
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BUREAU OF PLANT INDUSTRY—BULLETIN NO. 148.

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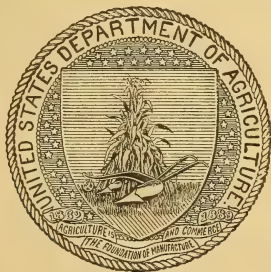
# SEEDS AND PLANTS IMPORTED

DURING THE PERIOD FROM JULY 1

TO SEPTEMBER 30, 1908:

INVENTORY No. 16; Nos. 23323 TO 23744.

ISSUED APRIL 10, 1909.



WASHINGTON:

GOVERNMENT PRINTING OFFICE.

1909.

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BUREAU OF PLANT INDUSTRY—BULLETIN NO. 148.

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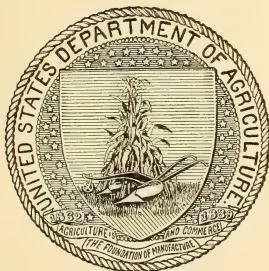
# SEEDS AND PLANTS IMPORTED

DURING THE PERIOD FROM JULY 1  
TO SEPTEMBER 30, 1908:

INVENTORY No. 16; Nos. 23323 to 23744.

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## LETTER OF TRANSMITTAL.

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U. S. DEPARTMENT OF AGRICULTURE,  
BUREAU OF PLANT INDUSTRY,  
OFFICE OF THE CHIEF,  
*Washington, D. C., January 15, 1909.*

SIR: I have the honor to transmit herewith and to recommend for publication as Bulletin No. 148 of the series of this Bureau, the accompanying manuscript, entitled "Seeds and Plants Imported During the Period from July 1 to September 30, 1908: Inventory No. 16; Nos. 23323 to 23744."

This manuscript has been submitted by the Agricultural Explorer in Charge of Foreign Seed and Plant Introduction with a view to publication.

Respectfully,

B. T. GALLOWAY,  
*Chief of Bureau.*

HON. JAMES WILSON,  
*Secretary of Agriculture.*

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# SEEDS AND PLANTS IMPORTED DURING THE PERIOD FROM JULY 1 TO SEPTEMBER 30, 1908: INVENTORY NO. 16; NOS. 23323 TO 23744.

## INTRODUCTORY STATEMENT.

This inventory of seeds and plants imported is the sixteenth in a series which was begun in 1898. It contains the introductions of only three months, and as the three months happened to fall at a time when our agricultural explorer Mr. Frank N. Meyer was in this country preparing for further explorations and Prof. N. E. Hansen was on his way to Central Asia or preparing there to collect the seeds of wild alfalfas on the steppes, the number of plants imported is small. It represents, therefore, only those things which have been secured by correspondence with our agents and friends in different parts of the world.

Through a correspondent in Chile, Mr. José D. Husbands, an unusual collection of seventy-two potato varieties was secured, among which are wild types from the archipelago of Chiloé and the adjoining mainland of Chile. These, it is hoped, will prove of considerable value for the breeders of this important crop. The unusual interest in the Peruvian strains of alfalfa induced us to get, through Mr. T. F. Sedgwick, of Lima, a collection of ten reputed different strains, while Mr. M. Fraile, of this Bureau, brought from near his home in Villares de la Reina, Spain, plants of a wild form of alfalfa which is of especial interest to the experts on this crop. The unusual activity of the office in the introduction of the timber bamboos of the world has brought in the rare and especially frost and drought resistant form *Dendrocalamus strictus* from India, and another, a tropical species, *Chusquea bambusaeoides*, which is said to seed regularly, from Rio de Janeiro, Brazil. Mr. W. S. Lyon, of Manila, has sent a remarkable ornamental squash that looks promising for greenhouse culture; Mrs. L. E. M. Kelly has sent five varieties of the Chinese leitchiee from the island of Hainan, the home of this new fruit, and through the kindness of Dr. John M. Swan, of Canton, a Wardian-case shipment of grafted leitchies was sent from Canton to the Hawaiian Islands. The seeds of a number of named varieties of Japanese chrysanthemums will interest the chrysanthemum growers; the seed of a honey-scented collarette dahlia will attract the growers of this flower; the introduction of *Viola calcarata* may lead to an improvement in the

ordinary pansy, and plants of *Rosa moyesi*, a distinct Chinese form, may be of value for the rose breeders. Our unusual collection of bananas has been enriched by twelve varieties from Ceylon, and a new mango of some promise from Brazil has been added to the mango collection.

It may be well to repeat what has been explained in previous inventories, that the appearance of a name and description in this bulletin does not indicate surely that the seeds or plants are available at once for the use of experimenters. The majority of this plant material has to be sent out as soon as possible after it arrives, much of it to experts at the State agricultural experiment stations who are waiting for it, and the rest to our propagating gardens, where it will be taken care of until the young plants are large enough to send out by mail to those particularly interested. An eligible list is kept and applications from private or official experimenters who feel that they are in a position to give any of the introductions a careful trial are welcomed. The more specific the application the more attention it will receive from this office, for the main object of the work is to encourage careful trials with the purpose of building up new plant industries. Whenever an experimenter thinks he sees a definite use for any one of the thousands of plants which are being imported it is the aim of the Office of Foreign Seed and Plant Introduction to put the living seeds or plants desired in his hands. As far as the limited facilities of the office permit, we will therefore agree to hunt up and get plant material of an experimental character, provided it is not listed in the seed or nursery catalogues of this country, and will place it in the hands of experimenters who can satisfy us of their ability to use it intelligently.

As it is of great importance that a historical record be kept of the success or failure of the many introductions, it is especially requested that whenever an experimenter makes a success of the plants sent him, and particularly if he publishes anything about them, he will notify the office and publish the office number, which is invariably sent out with every plant or package of seed, or, if the number is lost, he will at least give the date when the seed was sent him, so that through the accurate records which are kept the source of the seeds can be traced. It should also be remembered that a report of failure, while negative evidence, is often of very considerable value.

DAVID FAIRCHILD,  
*Agricultural Explorer in Charge.*

OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION,  
*Washington, D. C., January 15, 1909.*

# INVENTORY.

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## 23323. PHRAGMITES VULGARIS (Lam.) Hitchcock (ARUNDO VULGARIS Lam.).

From Gothenburg, Sweden. Procured by Hon. W. Henry Robertson, American consul. Received July 6, 1908.

"These roots were procured for comparison with American-grown reeds in the study of the reed-lath matting industry proposed by Mr. Ivar Tidestrom." (*Fairchild.*)

## 23324. CARICA PAPAYA L.

**Papaw.**

From Miami, Fla. Received through Mr. P. J. Wester, Subtropical Laboratory and Garden, July 6, 1908.

"A variety of papaw with cucumber-shaped fruits peculiarly well suited for packing. Grown at the Subtropical Laboratory under No. 516 from seed presented by Mr. Cephas Pinder, Upper Matecumbe Key. Pulp is rather thin, but the flavor is excellent. The flower is perfect and the variety appears worth testing and, if possible, improving on the thickness of the pulp." (*Webster.*)

## 23325 to 23332.

From Canton, Kwangtung, China. Presented by Dr. W. H. Dobson. Received July 6, 1908.

The following seeds. Varietal descriptions by Mr. H. T. Nielsen.

23325 to 23327. GLYCINE HISPIDA (Moench) Maxim. **Soy bean.**

23325. Black.

23326. Yellowish green.

23327. Yellowish green, smaller seeded than No. 23326.

23328. VIGNA SESQUIPEDALIS (L.) W. F. Wight.

23329 and 23330. DOLICHOS LABLAB L. **Hyacinth or Bonavist bean.**

23329. White.

23330. Red.

23331. PISUM ARVENSE L.

**Field pea.**

23332. CAJAN INDICUM Spreng.

## 23333. ANDROPOGON SORGHUM (L.) Brot.

From northwestern Rhodesia. Presented by Mr. C. E. F. Allen, Conservator of Forests, Livingstone, Victoria Falls, northwestern Rhodesia. Received July 8, 1908.

*Martwa.* "The seeds are small, broadly obovate, somewhat flattened, flinty, pearly white with pale hulls, closely resembling some forms of *Ampemby* from Madagascar." (*Carleton R. Ball.*)



**23334 and 23335.**

From Grand Rapids, Mich. Presented by Mr. V. A. Wallin, Wallin Leather Company, through Mr. Frederic Chisolm. Received July 1 and 9, 1908.

Seeds of the following:

**23334. CAESALPINIA BREVIFOLIA (Clos) Baill.**

**Algarobilla.**

Procured from an importing firm in the United States.

"A leguminous shrub or small tree the pods of which are extraordinarily rich in tannic acid, the content being as high as 67 to 68½ per cent. Tanning with these pods is accomplished in one-third of the time required for tanning leather from oak bark, and the pods are especially valuable as giving a bloom to the leather. They also furnish a yellow age." (*Extract from von Mueller.*)

**23335. CAESALPINIA CORIARIA (Jacq.) Willd.**

**Cascalote.**

From the south of Mexico.

"A leguminous tree from the wet seashores of Central America. Each tree is said to produce annually 100 pounds of pods, the husks of which, commercially known as divi-divi, are regarded in India as the most powerful and quick-acting tanning material. The market price of the pods is from \$40 to \$65 per ton, and England imports about 4,000 tons annually. In India lac is also gathered from this tree." (*Extract from von Mueller.*)

**23336 to 23339.**

From Shanghai, Kiangsu, China. Presented by Dr. S. P. Barchet, interpreter, American Consulate. Received June 26 and July 7, 1908.

The following seeds:

**23336 to 23338. GLYCINE HISPIDA (Moench) Maxim.**

**Soy bean.**

**23336. Barchet.** Identical with No. 20798.

**23337. Riceland.** Identical with No. 20797.

**23338. Meyer (?).** Mottled brown. Probably identical with No. 17852.

**23339. ORYZA SATIVA L.**

**Rice.**

**23340. LEUCAENA GLAUCA (L.) Benth.**

**Necklace seed.**

From Hayden Bridge, England. Presented by Mr. Robert Dodd, Back Row. Received June 27, 1908.

"These seeds are used for making necklaces." (*Safford.*)

**23343 and 23344. DIPTEROCARPUS spp.**

From Saigon, Cochin China. Presented by Mr. J. E. Conner, American consul. Received July 9, 1908.

**23343. DIPTEROCARPUS ALATUS Roxb.**

"This is one of the most beautiful trees for street planting and ornamentation that can be found. It is tall, straight as an arrow, has no limbs near the ground, and is both graceful and majestic in appearance. It will grow within thirty years to a height of 100 feet or more, and at maturity attains a much greater height. An avenue of these trees gives the impression of an avenue of royal palms, for the trunks are straight and columnar and present a rather smooth, rounded surface of gray bark reaching far overhead to the beginning of the fan-shaped periphery of limbs and leaves. It is a native of Cochin China only, but has been transplanted to Mexico. The soil is a black alluvial deposit, not too wet." (*Conner.*)

**23344. DIPTEROCARPUS INTRICATUS Dyer.**

**23345 to 23347.**

From China. Presented by Rev. J. M. W. Farnham, Chinese Tract Society, Shanghai, China. Received July 9, 1908.

The following seeds:

**23345.** FRAGARIA INDICA Andrews.

**Strawberry.**

From Mokanshan, China. "Seed of a wild strawberry. Tasteless." (*Farnham.*)

**23346.** RUBUS sp.

**Raspberry.**

"Wild red raspberry found growing 1,600 feet above sea level on the mountain not far from Hangchow, China. A pleasant acid, but not much of the raspberry flavor. Used for eating raw, as jam, and makes a good jelly. A true raspberry." (*Farnham.*)

**23347.** RUBUS sp.

"A wild red berry, resembling the blackberry except in color. Slightly acid." (*Farnham.*)

**23348 to 23352.**

From China. Received through Mr. Frank N. Meyer, agricultural explorer, in the spring of 1907.

The following plants and seeds:

**23348.** OPHIOPOGON JAPONICUS (L.) Ker.

From Tanghsi, China. "(No. 232a, Mar. 1, 1906.) A grasslike plant which may be useful as an edge plant in shady places, as it grows in such locations; bears nice blue berries." (*Meyer.*)

**23349.** POA PRATENSIS L.

From Kaiyuan, Manchuria. "(No. 595, Jan. 15, 1907.) A strange grass found growing on the city wall of Kaiyuan. Seems to be able to withstand droughts and neglect remarkably well. Will probably be found to be a very valuable lawn grass." (*Meyer.*)

**23350.** (Undetermined.)

**Sedge.**

From Kaiyuan, Manchuria. "(No. 596, Jan. 15, 1907.) A very slender leaved sedge found growing on the city wall of Kaiyuan, where it is subjected to great extremes in temperature and to much drought. Will probably be found of great use in small gardens in the arid regions as a lawn sedge." (*Meyer.*)

**23351.** (Undetermined.)

**Sedge.**

From Kaiyuan, Manchuria. "(No. 597, Jan. 15, 1907.) A medium slender leaved sedge found growing on the city wall of Kaiyuan. Will be found well fitted for a lawn sedge in the arid regions of the United States. It is probably the same species as that sent from Peking in 1905 under No. 70 (S. P. I. No. 17466)." (*Meyer.*)

**23352.** (Undetermined.)

**Sedge.**

"A very coarse species of low-growing sedge found on the city wall of Kaiyuan. Seems to thrive better in the shady places than when fully exposed to the sun. For this reason it may be of use as a lawn sedge underneath trees. May also be fit as a fodder plant in dry, cold places." (*Meyer.*)

**23353 and 23354.**

Presented by Miss Jane Lewis, 1721 West Genesee street, Syracuse, N. Y., through Mr. J. R. Robinson, of the Department of Agriculture. Received July 14, 1908.

Seed of each of the following:

**23353.** BIGNONIA UNGUIS-CATI L.

From Canary Islands. "Seeds of a climber with a lovely yellow flower. They, I believe, will be slow in sprouting." (*Lewis.*)

**23353 and 23354—Continued.****23354. GERBERA JAMESONI Bolus.****Barborton daisy.**

From Durban, South Africa. Procured from the curator of the Botanic Gardens. "The flowers are a beautiful shade of red." (*Lewis.*)

**23355 to 23363. ANDROPOGON SORGHUM (L.) Brot.****Kafir.**

From Vereeniging, Transvaal, South Africa; original seed from Natal. Presented by Prof. J. Burt Davy, agrostologist and botanist, Transvaal Department of Agriculture. Received July 21, 1908.

Seed of each of the following. Varietal descriptions by Mr. Carleton R. Ball.

**23355.** White. Extra long heavy head; seed large, white, slightly flattened; glumes greenish white.

**23356.** White. Small head as in our domestic varieties; seeds and glumes very similar.

**23357.** White kafir form. Slender head; white kafir seed, but the greenish white glumes are longer than in a true white kafir.

**23358.** Medium-sized head; spikelet rather small; glumes reddish to black, about as an orange sorgo; seeds varying from white tinged with red to orange.

**23359.** Similar to No. 23358, but seeds averaging paler.

**23360.** Medium kafir head; small orange seeds and greenish glumes tinged with red.

**23361.** Similar to No. 23360, but glumes frequently a deep red.

**23362.** Medium kafir head; tinged red seeds and pale glumes.

**23363.** Medium kafir head, but with deep reddish brown seeds and deep red glumes; strongly resembles a deep red *Orange* or *Colman* sorgo and may prove to be sweet.

**23364 to 23366. LITCHI CHINENSIS Sonner.****Leitchee.**

From Canton, Kwangtung, China. Procured by Dr. John M. Swan, medical superintendent, the Medical Missionary Society's Hospital. Received at the Hawaii Agricultural Experiment Station June 6, 1908.

Trees of each of the following:

**23364.** *Kwai mi.* "A delicious flavored and very popular leitchee. It comes in the fifth lunar month (July). Earliest variety." (*Swan.*)

**23365.** *Hak ip.* "The black-leaf leitchee; this is a favorite early sort, having a small seed, and is tender and very juicy. It ripens in the fifth lunar month (July), and we count it our best variety. The tree is grafted by the approach system." (*Swan.*)

**23366.** *Neu mai chi.* "This is the largest fruited and smallest seeded and sweetest leitchee in Canton, and is one of the best. It sells for 10 cents a caddy (about 4 cents a pound), double the price of the ordinary sorts. It ripens in the fifth and sixth lunar months (July and August)." (*Swan.*)

"Leitchees like a rich, clayey soil and must not be allowed to suffer from drought." (*Frank N. Meyer.*)

**23367 to 23378.**

From Paramaribo, Surinam. Presented by Mr. J. R. Wigman, director of the Botanic Garden. Received July 24, 1908.

Cuttings of each of the following:

**23367.** CITRUS LIMONUM Risso.

**Lemon.**

From Saramacca district.

**23367 to 23378—Continued.**

23368. CITRUS NOBILIS LOUR. Mandarin.

From Groningen Station.

23369. CITRUS AURANTIUM L. Orange.

From Voorburg estate.

23370. CITRUS AURANTIUM L. Orange.

From Groningen Station.

23371. CITRUS DECUMANA (L.) Murr.

"Curacaosche alamoen."

"We consider these trees just as good or in some respects even better than many well-known standard varieties." (Wigman.)

23372 to 23378. MANIHOT spp. Cassava.

23372. .

"Kankantrie tikië."

23373.

"Kaboegrocoeman."

23374.

"Boeroe tikië."

23375.

"Affie tikië."

23376.

"Pina pina."

23377.

"Ingi bitawan."

23378.

"Bita."

"The above yield the largest quantity of starch of any of the Surinam varieties." (Wigman.)

**23379 and 23380. CARICA PAPAYA L. Papaw.**

From Ancon, Canal Zone, Panama. Presented by Mr. H. F. Schultz, through Mr. Frederic Chisolm. Received July 21, 1908.

Seed of each of the following:

23379. "Superior variety; large fruit, solid yellow meat; spicy; obovate form; prolific bearer; mother tree at Ancon, Canal Zone." (Schultz.)

23380. "Very best variety, producing medium-sized to large fruit; color of meat a golden yellow; flavor excellent, very aromatic; shape of fruit pyriform. Seed obtained from Culebra, Canal Zone." (Schultz.)

**23381 to 23386.**

From Piracicaba, Sao Paulo, Brazil. Presented by Dr. J. William Hart, director, Agricultural College, through Mr. C. V. Piper. Received July 23, 1908.

23381. MELINIS MINUTIFLORA BEAUV. Molasses grass.

"Catingueira soxa. This is the more valuable sort." (Hart.)

23382. ANDROPOGON HALEPENSIS (L.) Brot. Johnson grass.

"This stock does not spread by means of roots." (Hart.)

## 23381 to 23386—Continued.

23383 and 23384. "Seed of two coarse-growing forage grasses." (Hart.)

23383. *Panicum* sp.

"*Capim milhã branca de Itapira.*"

23384. *Panicum* sp.

"*Capim Guine.*"

23385. *PANICUM MAXIMUM* Jacq.

Guinea grass.

"*Capim colonia.* This is a rank grower and makes a quantity of hay that all classes of stock eat eagerly. In our alfalfa field it is the most persistent 'weed' that we have to contend with. Usually it is in flower every time the alfalfa is cut, and the combination beats timothy and clover." (Hart.)

23386. *MARANTA ARUNDINACEA* L. (?)

Arrowroot.

"This is much superior to the common arrowroot we have been growing; is very large and easier to dig on account of its bulbs being near the surface. It might be of some value where the common Bermuda arrowroot flourishes." (Hart.)

23390. *TRICHOLAENA ROSEA* Nees.

From Piracicaba, Sao Paulo, Brazil. Presented by Dr. J. William Hart, director, Agricultural College, through Mr. C. V. Piper. Received July 27, 1908.

"Favorite grass. A very fine hay grass. It does not grow in clumps like so many of our grasses, and may prove a good lawn grass for the South." (Hart.)

## 23391 and 23392.

From Spain. Received through Mr. M. Fraile, of this Department, July 28, 1908.

23391. *MEDICAGO SATIVA* L.

Alfalfa.

"These roots of 'Mielga' were only sent to show the size, and were taken from the roadside near the village of Villares de la Reina. This plant remains green through drought, while other small vegetation withers away." (Fraile.)

"The name 'Mielga' is never applied to the cultivated form of alfalfa, but only to the wild form. Some seedsmen also apply it to *Medicago sativa varia*.

"The plants lack the upright habit of cultivated alfalfa, and are viewed very much as weeds are in this country. Frequently it is quite difficult to eradicate them from fields in which they have become established. The roots sometimes acquire a diameter of an inch or more." (Brand.)

23392. *AMYGDALUS COMMUNIS* L.

Almond.

"Cuttings of seedling hard-shelled almonds from along the railway track near Bobadilla. These trees were planted by the railroad company, and extend from Bobadilla 50 miles northward. They are now (1908) 13 years old and are bearing fruit. This is the most colossal seedling orchard of these seedling hard-shelled almonds in the world, and the late-flowering varieties are worthy of being picked out and propagated." (Fairchild.)

23393. *SOLANUM JAMESII* Torr.

From Santa Fe, N. Mex. Presented by Mr. M. J. Nagle, through Mr. R. A. Oakley. Received July 18, 1908.

See Nos. 10473 and 18342 for previous introductions.

23395. *LITCHI CHINENSIS* Sonner.

Leitchiee.

From Nodoa, island of Hainan, South China. Presented by Mrs. L. E. M. Kelly. Hoihow, island of Hainan, South China, via Hongkong. Received August 1, 1908.



**23395—Continued.**

"This shipment contains five different varieties of leitchees. The seeds were taken from selected fruits of the most delicious kinds and have been dried in the shade, as the Chinese say they will never grow if dried in the hot sun. In planting, the seeds must be barely covered with finely pulverized earth and watered freely." (*Kelly.*)

**23416. PITHECOLOBIUM DULCE (Roxb.) Benth.**

From Tamaulipas, Mexico. Presented by Mr. Clarence A. Miller, American consul at Matamoros, through Mr. E. C. Green, in charge of the South Texas Garden, Brownsville, Tex., at the request of Mr. Frederic Chisolm. Received August 3, 1908.

"A plant used for tanning purposes. These seeds were secured from a small tree growing in the State of Tamaulipas, Mexico. The trees occur occasionally through the northern part of that State." (*Green.*)

**23417 to 23422. ANDROPOGON SORGHUM (L.) Brot. Sorghum.**

From Natal, South Africa. Presented by Miss Caroline E. Frost, Umzumbe Mission Station. Received August 1, 1908.

The following seeds. Varietal descriptions by Mr. Carleton R. Ball.

**23417. Kafir.**

"*Ibele elimhlope.* Tall, bears well, eaten by birds more than other kinds." (*Frost.*)

Very slender head near *Blackhull* kafir, but spikelets smaller and grain has pinkish tinge.

**23418. Kafir.**

"*Ibele elifupi.* A favorite variety among Zulus because it is short and easy to handle." (*Frost.*)

A large heavy head near *Red* kafir, but glumes are greenish white and seeds pale red.

**23419. Sorgo (?).**

"*Ihlosa.* Tall; eaten by birds." (*Frost.*)

A loose, open, medium-sized head with slender branches; rachis extending only halfway through; glumes mostly shining black, and obovate seeds of a pinkish tinge. Pith discolored.

**23420. Sorgo (?).**

"*Njiba.* Tall, rather bitter; larger seeds than other varieties; not eaten by birds." (*Frost.*)

Short, oval head; rachis 1 inch long; branches stout at crest; glumes short, mostly greenish white; obovate, pale red seeds; resembles our *sumac-milo* hybrid.

**23421. Kafir.**

"Apparently the same as the second variety (S. P. I. No. 23418)." (*Frost.*)

Small, slender head; greenish glumes and large obovate pink seeds.

**23422.**

"*Coolie corn.* This grows larger and taller than any of the other varieties, eaten by birds." (*Frost.*)

Probably not native to Natal, a form of Hackel's variety *roxburghii*, to which *shallu* belongs. Characterized by long, loose head; long slender branches; slender, acute, greenish to red glumes, spreading apart and becoming involute at maturity, completely exposing the flattened, oval, white seed, which shatters readily; strongly awned; almost identical with some *mpembys*.

**23423 and 23424. PHOENIX spp.**

From Nice, France. Presented by Dr. A. Robertson Proschowsky. Received July 27, 1908.



## 23423 and 23424—Continued.

23423. PHOENIX CANARIENSIS Chabaud. (?)

"This beautiful palm, considered by Prof. U. Dammer, of Berlin, a distinct species (I could not find out origin), produces fairly good dates and will, I think, interest Mr. Swingle, who has asked me for seed of my different Phoenix with eatable fruits for hybridization purposes." (*Proschowsky*.)

23424. PHOENIX RECLINATA Jacq. (?)

"Stem short; leaves 2-ranked, bright green, obliquely arcuate-recurved toward the apex; leaflets rigid, 12 inches long, 1 inch wide, lanceolate, acuminate, the lowest spinescent." (*Bailey*.)

## 23425 to 23431.

From Rio de Janeiro, South America. Presented by Dr. Wenceslao Bello, president of the National Society of Agriculture. Received July 31, 1908.

The following plants:

23425. CHUSQUEA BAMBUSAEOIDES (Raddi) Hackl. (?)

"*Taquarussú*. A kind of bamboo bearing abundant seed and occurring in the neighborhood of Rio." (*Bello*.)

23426. MANGIFERA INDICA L.

Mango.

"*Itamaracá*. A small yellow mango with thin skin, without fiber, and of very delicate flavor, bringing a high price on the market. Occurs in Pernambuco." (*Bello*.)

23427. PLATONIA INSIGNIS Mart.

"*Bacopari*. This fruit is slightly acid, has a white pulp, and is probably a wild form." (*Bello*.)

23428. MYRCIARIA EDULIS (Vell.) Skeels (EUGENIA EDULIS Vell.).

"*Cambucá*. A very large tree with fruit the size of an apple, of yellow color, much more delicate than the guava." (*Bello*.)

23429 to 23431. MYRCIARIA CAULIFLORA (Mart.) Berg.

"*Jaboticaba*. Bears a small black fruit about the size of a plum, of a delicious flavor." (*Bello*.)

23429. Var. *coroa*.

23431. Var. *paulista*.

23430. Var. *murta*.

## 23432 to 23435.

From Jamaica Plain, Mass. Presented by Prof. C. S. Sargent, of the Arnold Arboretum. Received at the Subtropical Laboratory and Garden, Miami, Fla., August 4, 1908.

The following plants:

23432. OROXYLON FLAVUM Rhed.

A tree, with light brown bark. Flowers clear sulphur yellow, appearing in spring.

"This species will probably be suited to the climate of the Southern States and of southern California, and will be a desirable ornamental tree on account of its large pinnate foliage and handsome yellow flowers." (*Rheder*.)

23433. DORYANTHES PALMERI W. Hill.

"An amaryllus-like herb. Flowers red, in an oblong, branched raceme, 3 feet long, stem and bracts the same rich color as the flowers. A native of Queensland, Australia." (*Bentham, Flora Australiensis*.)

23434. SCHEFFLERA sp. (?)

23435. FICUS PANDURATA Hance.

"A low diffuse bush, with large broad leaves, from southern China." (*Annals of Calcutta Botanic Gardens, 1887-88*.)

"It is of use as a greenhouse ornamental, and as such has been known to reach a height of 14 feet." (*Young*.)

**23436. COLCHICUM AUTUMNALE L.****Meadow saffron.**

From York, England. Purchased from J. Backhouse & Son (Limited) for Dr. R. H. True's experiments. Received August 11, 1908.

"A low, perennial, bulbous plant, native in moist meadow lands in middle and southern Europe. The corms and seeds are used in preparing the extract and wine of colchicum and the alkaloid colchicin and its salts, employed in the treatment of gout.

"Cultivated as an ornamental. Flowers in autumn.

"This plant possesses very active properties, a small portion of the root or seeds taken internally being sufficient to cause poisoning." (*True.*)

**23437. GLADIOLUS spp.****Gladiolus.**

From Pretoria, South Africa. Presented by Prof. J. Burt Davy. Received August 7, 1908.

"Corms of our native gladioli. There is more than one species represented in this collection." (*Davy.*)

**23438 to 23446.**

From Bagdad, Turkey. Procured by Mr. William C. Magelssen, American consul. Received August 11, 1908.

The following seeds:

**23438. PHOENIX DACTYLIFERA L.****Date.**

*Ascherasi.*

**23439 to 23446. ZIZYPHUS JUJUBA (L.) Lam.****"Nabuk."**23439. *Ascherasi.*23443. *Khdrawi.*23440. *Khastawi.*23444. *Zeytouni.*23441. *Zehdi.*23445. *Jozi.*23442. *Berben.*23446. *Taberzal.*

"The foliage of the Nabuk tree appears to be equally luxuriant on all varieties, and there is no choice so far as their growth is concerned. The fruit differs slightly in taste and quality; it is eaten by the poorer classes of Mohammedans and Jews. I am informed that the natives make it a practice to soak the seed in rose water before planting, claiming that this tends to increase the beauty of the tree and the flavor of the fruit. The Nabuk is certainly the finest shade tree grown in these parts, and I judge from the scant care given it that the tree must be an exceptionally hardy one." (*Magelssen.*)

**23449. AMYGDALUS PERSICA L.****Peach.**

From Pretoria, Transvaal. Presented by Mr. R. A. Davis, government horticulturist, Transvaal Department of Agriculture. Received August 13, 1908.

"These seeds are from a natural variety, *St. Helena*, or *Transvaal Yellow*, always coming true. As a fruit, they are a good cling canner, but otherwise useless. As a stock, they are unequaled for wet, dry, rocky, or loamy soil; will germinate and fruit in two years if thrown from a railway carriage window into a rocky crevice. I think it should be very useful in California." (*Davis.*)

**23450. AGATHIS AUSTRALIS (Lamb.) Steud.****Kauri pine.**

From Auckland, New Zealand. Presented by Mr. D. Petrie. Received August 13, 1908.

"This magnificent tree measures, under favorable circumstances, 180 feet in height and exceptionally 17 feet in diameter of stem, the estimated, but perhaps overrated, age of such a tree being 700 to 800 years. It furnishes an excellent, remarkably durable timber, straight grained, and much in use for

**23450—Continued.**

masts, boats, superior furniture, casks, and rims of sieves, and it is particularly sought for decks of ships, lasting for the latter purpose twice as long as the deal of many other pines. It is also available for railway brake blocks and for carriages, and is regarded as one of the most durable among timbers of the Coniferae. \* \* \* This tree yields, besides, the Kauri resin of commerce. \* \* \* The varnish made of it is almost colorless." (*Extract from von Mueller.*)

**23451. ARISTOTELIA MACQUI L'Herit.****"Maqui."**

From Santa Ines, Chile. Procured from Salvador Izquierdo. Received August 18, 1908.

"Seed of the Chilean shrub which is so much used for giving color to pale wines. The color is extracted from the berries or seeds by trituration, maceration, and, finally, decantation." (*Izquierdo.*) (See also No. 19113 for further description.)

**23452. RUBUS SPECTABILIS Pursh.****Salmon berry.**

From Sitka, Alaska. Received through Prof. C. C. Georgeson, special agent in charge, Agricultural Experiment Station, August 18, 1908.

"The salmon berry of Oregon, California, and New Mexico. Closely allied to *R. nutkanus*, but the stem is nearly evergreen, and ramification persistent and prickly. Fruit large, red, yellow, or salmon colored, raspberry-like. Mr. L. Burbank records that the stems will reach a height of 20 feet and occasionally a foot in diameter. Fruit larger than any raspberry, but not so well tasted. Crop always abundant. Fruit ripe when other raspberries are only in bloom. [Prof. Meehan.] Requires moist, sandy land. Promising for hybridization." (*Von Mueller.*)

**23453. VOANDZELA SUBTERRANEA (L.) Thouars.****Woandsu.**

From Pretoria, Transvaal, South Africa. Presented by Prof. J. Burtt Davy, Transvaal Department of Agriculture. Received August 7, 1908.

"African groundnut, African ground pea, woandsu, and erroneously goober pea.

"Native of Madagascar, Comoro Island, and various parts of Africa as far south as Natal. A plant very much resembling the peanut, but containing only one seed in each pod. These pods ripen under the ground in the same manner as peanuts. The plant is smaller, and in most cases not so prolific in seed as the best varieties of peanuts. These are used in about the same manner as peanuts both for human food and as feed for animals. In California the woandsu has yielded nearly as heavily as the best varieties of peanuts, but at most other places the yield has been less." (*C. V. Piper.*)

**23455. ZIZYPHUS SATIVA Gaertn.****Chinese date.**

From Beaufort, S. C. Purchased from Mr. A. P. Prioleau, through Mr. Frederic Chisolm, for stocks. Received August 20, 1908.

"This fruit, commonly called jujube, is very pleasant eaten raw, and is largely used in the Southern States in making jujube paste and similar confectionery. The fruits are dried by the Chinese, and in that condition taste somewhat between a raisin and a dried date." (*Chisolm.*)

**23456. (Undetermined.)**

From Nodoa, island of Hainan, South China. Presented by Mrs. J. Franklin Kelly, Hoikow, island of Hainan, South China. Received August 29, 1908.

"Seed of the 'yellow-skin' (*Iu Foe*), a fruit the size of a large marble, yellow skin when ripe, with a tart, delicious flavor. It makes a nice, cooling drink and lovely jam, a little like gooseberry in flavor. It grows on a pretty, symmetrical tree." (*Kelly.*)

**23457. PITHECOLOBIUM DULCE (Roxb.) Benth. Guamuchitl.**

From Ixtlan del Rio, Tepic, Mexico. Presented by Sr. Alfredo Lonergan, through Mr. Frederic Chisolm. Received August 11, 1908.

"A thorny leguminous tree known in Mexico as guamuchitl, or huamuchitl; the sweetish pulp of the pods is universally eaten by the natives, while the bark of the tree is used in tanning leather. Has succeeded at Miami, Fla." (Chisolm.)

**23458 to 23467. MEDICAGO SATIVA L. Alfalfa.**

From Peru. Procured by Mr. T. F. Sedgwick from Antonio Cantelli Y Hno, Lima, Peru, for Mr. C. V. Piper. Received August 19, 1908.

<b>23458.</b> <i>Barranca.</i>	<b>23463.</b> <i>Monsefu.</i>
<b>23459.</b> <i>Conchapileá.</i>	<b>23464.</b> <i>San Pedro.</i>
<b>23460.</b> <i>Pueblo Nueva.</i>	<b>23465.</b> <i>Acos.</i>
<b>23461.</b> <i>Cochahuiaico.</i>	<b>23466.</b> <i>Supe.</i>
<b>23462.</b> <i>Omas.</i>	<b>23467.</b> <i>Sajan.</i>

**23468 and 23469.**

From Salamanca, Spain. Secured by Mr. Manuel Fraile, of this Department. Received August 24, 1908.

**23468. MEDICAGO SATIVA L. Alfalfa.**

Roots from plants growing beside road between Salamanca and Villares de la Reina, Spain. (See No. 23391 for further remarks.)

**23469. AMYGDALUS COMMUNIS L. Almond.**

Hard-shelled sweet variety. From a tree 30 years old growing in a garden in Villamayor, Salamanca, Spain.

**23471 to 23473.**

From Cochín China. Presented by Hon. Jacob E. Conner, consul. Received August 25, 1908.

The following seeds:

**23471. AVERRHOA BILIMBI L. Cucumber tree.**

"Flowers red in larger racemes than *A. carambola*; fruit smaller than *carambola*, cucumber shaped, smooth, green rind, and acid pulp. Extensively cultivated in South America." (L. H. Bailey.)

**23472. PHYLLANTHUS ACIDA (L.) Skeels (AVERRHOA ACIDA L.). Otaheite gooseberry.**

"Shrub, with ovate acute leaflets; flowers on separate branches below the foliage; fruit fleshy, edible. India and Madagascar. W. Harris, of Hope Gardens, Jamaica, West Indies, writes that the Otaheite gooseberry is an elegant shrub or small tree, often cultivated in gardens in the lowlands of Jamaica and the West Indies. The fruit is very acid and astringent; the root is an active purgative, and the seed is also cathartic. The fruit is occasionally pickled or made into preserves. Plants are raised from seeds." (L. H. Bailey.)

**23473. AVERRHOA CARAMBOLA L.**

From tree growing in Mr. Conner's garden. "The fruit is quite juicy, piquant, and agreeable. As the plant can stand slight frost it ought to succeed in southern Florida. The fruit is well worthy of introduction." (Conner.)

**23474. ILLIPE LATIFOLIA (Roxb.) F. Muell.****Mahwah.**

From Baroda, India. Presented by M. A. Sitole, Director of Agriculture, Baroda State, India, through Mr. O. W. Barrett. Received August 20, 1908.

"A tree, growing 50 feet high, content with dry, stony ground, enduring slight frost. Wood so tough as to be adapted for plows and various machinery [Dr. Schlich]. The succulent corolla affords a never-failing crop of nourishing saccharine food to the rural inhabitants. Each tree supplies 2 to 3 hundredweight; each hundredweight yields on distillation about 3 gallons of spirits; essential oil is also obtained from the corolla. The flowers are also used for feeding cattle; they will keep for a long time. The seeds yield oil of thick consistence." (*Von Mueller*.)

**23475. PASPALUM DILATATUM Poir.****Large water grass.**

From Coffs Harbor, New South Wales, Australia. Purchased from Mr. W. Seecombe, through Mr. C. V. Piper. Received August 22, 1908.

**23476. DENDROCALAMUS STRICTUS (Roxb.) Nees.****Bamboo.**

From British India. Presented by Mr. Jean Houzeau de Lehaie, Saint Symphorien, Belgium. Received August 26, 1908.

"One of the most valuable bamboos; is not hurt by slight frosts and, it is said, is very drought resistant. Wood of the finest quality.

"I hope that this valuable species, designated by Sir D. Brandis as the most important for the Southwest of the United States, has now been introduced in sufficient quantity so that a distribution may be made for outdoor planting. I think that in order to be successful the young plants ought not to be planted outdoors until the spring of 1910, unless it is under exceptionally favorable conditions, and that in any case it will be necessary to irrigate or water them, to fertilize them, and to keep them covered with straw the first summer after they are planted out. It will of course be only the most vigorous and well rooted plants which will show all their power of resistance and all their good qualities." (*De Lehaie*.) (See Nos. 21548 and 22819 for previous importations.)

**23477. VITIS VINIFERA L.****Grape.**

From Aberdeen, Cape Colony, South Africa. Presented by Mr. F. W. Eagle, at the request of Mr. R. A. Davis, government horticulturist, Transvaal Department of Agriculture. Received August 29, 1908.

*Karoo Belle*. "This grape is a really good table fruit, possessed of hardy qualities and largely resistant in this country to *oidium*; it would be quite at home in the Santa Clara Valley, and also, I think, farther south, even in Fresno." (*Davis*.)

"I have succeeded in rearing a cross between the vines *White Crystal* and *Muscat Hambro*, which I have named *Karoo Belle*. A magnificent grape, strong grower, enormous cropper, very large and most compact bunches (some cut this season weighed from 5 to 7½ pounds), round and very large, almost stoneless berries, which are a dark brownish purple where well exposed to the sun, but where hanging in the shade are only slightly tinted, or even quite green if very much shaded, and always with a great deal of bloom. Carries exceptionally well, as proved by a box of grapes sent to Johannesburg containing eight varieties, among which were *Hannepoot*, *Crystal Muscat Hambro*, *Vitenhage Blue*, etc., all of which were useless except *Karoo Belle*, bunches of which were perfect. As regards keeping qualities, we cut the first ripe bunch off the parent vine on January 15, and the last one on June 28, which were perfectly sound except a few berries stung by the bees through the bag, so that we have been cutting grapes from the one vine for nearly five and a half months." (*Mr. Eagle, Aberdeen, Cape Colony, in the Transvaal Agricultural Journal, January, 1907, p. 472.*)

"This variety of grape has been planted largely in different districts of the Transvaal. The vine arrived with a flattering reputation, but has, unfortunately, proved in the majority of cases quite worthless, owing to the fact that



**23477—Continued.**

it bore no fruit. The writer in the course of his journeys through the country has only found two of the kind which ever gave signs of a crop, one of which has been grown by Mr. J. G. Beverley, of Zeerust. This particular vine has at present (in its third year) 59 bunches of grapes well formed and set and in perfectly healthy condition. It would appear, therefore, that this grape, one of the few varieties originated in South Africa, will under certain circumstances do exceedingly well." (*Extract from the Transvaal Agricultural Journal, January, 1907, p. 471.*)

**23481. MEDICAGO SATIVA VARIA (Mart.) Urb. Alfalfa.**

From Hamburg, Germany. Purchased from R. Liefman Sons, Successors, through Mr. I. L. Radwaner, 533 East 149th street, New York. Received August 31, 1908.

Sand lucern.

**23482. VICIA VILLOSA Roth. Hairy vetch.**

From Svalof, Sweden. Purchased from the Allmanna Svenska Utsadesaktiebolaget, through Dr. Albert Mann, at the request of Mr. A. D. Shamel. Received July, 1908.

To be used by Mr. A. D. Shamel, at Hockanum, Conn., as a cover crop in his tobacco experiments.

**23483. DAHLIA sp. Dahlia.**

From Erfurt, Germany. Purchased from Mr. T. C. Schmidt. Received September 3, 1908.

"Variety *coronata*. This Mexican sort is to be regarded as a forerunner of quite a new class and certainly worth consideration, especially as the flowers have a pleasant honey-like scent, which up to the present no other dahlia has. The habit and growth of the plants are somewhat different from the other known dahlia sorts, because they first nearly fully develop and then bring up the enormously long flower stems, so that the flowers are from 20 to 28 inches freely above the foliage. The whole plant reaches a height of about 4½ feet, blooms abundantly, and one can easily cut flowers with stems 24 to 30 inches long, which makes this sort valuable for large bouquets, especially as the cut flowers keep in water several days.

"The color of the flowers is a brilliant and bright scarlet, the form that of the single dahlias, only the separate leaves are bent somewhat inward, and besides that the flowers close in the evening, assuming thereby the form of a crown. The raising from seed is not at all difficult. By sowing in May the plants bloom in July and August." (*Schmidt.*)

**23485 and 23486.**

From Stockholm, Sweden. Presented by Dr. Veil Wittrock, director, Botanic Garden. Received August, 1908.

Seed of each of the following:

**23485. VICIA KOKANICA Reg. & Schmal.**

"A perennial species occurring in the mountains of Kokan near Woruch, Naubid, and in the passes of Basmandinsk (Turkestan)." (*O. Fedtschenko, in Fedtschenko's Journey in Turkestan, vol. 3.*)

**23486. PHLEUM PRATENSE NODOSUM (L.) Halacsy.****23487. PHALARIS COERULESCENS Desf.**

From Melbourne, Australia. Presented by Mr. Alfred Henry, Office of Titles, Queen street, through Mr. C. V. Piper. Received August, 1908.

See No. 22961 for description.



**23488. ANDROPOGON HALEPENSIS (L.) Brot. Johnson grass.**

From Brazil. Presented by Mr. H. M. Lane, president, Mackenzie College, Sao Paulo, Brazil, through Mr. C. V. Piper. Received August 24, 1908.

"This seed was procured from a seedsman and is probably from one of the northern States of Brazil. It does not grow here (Sao Paulo)." (Lane.)

**23489 to 23493.**

From Cordoba, Spain. Received through Mr. Manuel Fraile, of this Department, September 4, 1908.

**23489. PUNICA GRANATUM L. Pomegranate.**

Sweet.

**23490. PUNICA GRANATUM L. Pomegranate.**

Sour.

**23491. AMYGDALUS COMMUNIS L. Almond.**

Sweet.

**23492. AMYGDALUS COMMUNIS L. Almond.**

Bitter.

"These almonds are said to flower in April and May, but as the region from which they come is a rather cool one they probably should not be regarded as late-flowering varieties." (Fraile.)

**23493. CROCUS SATIVUS L. Saffron.**

**23494. CUCURBITA PEPO L. Squash.**

From Philippine Islands. Presented by Mr. W. S. Lyon, Manila, P. I. Received August 26, 1908.

"*Catalaba*. This plant was found growing on a house in a barrio of a small town on the shores of the Laguna de Bay, Luzon. The leaves are not unusual in shape, but the center of each is of the richest gold or orange yellow surrounded by a zone of the darkest and blackest of vegetable greens. The fruit from which these seeds were obtained was rather small, weighing only about 2 pounds, with a major diameter of  $6\frac{1}{2}$  inches and a minor of  $4\frac{1}{2}$  inches. The fruit has all the sweetness, dryness, and chestnut-like flavor of the best strains of the *Winter Hubbard* squash. Externally the skin is smooth, the central zone being of a dark rich green, on each side of which is an orange-yellow cap. It looks more like a striking fancy gourd than a squash. The owner of the vine from which I obtained the single fruit claimed that no one else owned a similar plant, as he had always refused to sell mature fruits or seeds. From the appearance of the vine I believe that it is a shy bearer, which does not lessen the value of the plant as an ornamental of a very unusual character." (Lyon.)

**23495. EUCALYPTUS MICROTHECA F. Muell. Coolibah.**

From Sydney, New South Wales, Australia. Procured from Mr. J. H. Maiden, director and government botanist, Botanic Gardens. Received September 8, 1908.

"Widely dispersed over the most arid extratropical as well as tropical inland regions of Australia. The 'coolibah' of the aborigines, according to the Rev. Dr. Woolls. The tree wants ferruginous-gravelly soil, perfectly drained. Withstands unscorched a frequent heat of  $156^{\circ}$  F. in Central Australia, yet was not affected by exceptionally severe frosts ( $18^{\circ}$  F.) in the south of France when many other eucalypts suffered. The development of this species in southern France and Algeria has been marvelously quick. [Prof. Naudin.] One of the best trees for desert tracts; in favorable places 150 feet high. Wood brown, sometimes very dark, hard, heavy, and elastic; it is prettily marked, hence used for cabinetwork, but more particularly for piles, bridges, and railway sleepers. [Rev. Dr. Woolls.]" (Von Mueller.)

"This seed was introduced partly for raising trees for honey in California." (Young.)

**23496 to 23518.**

From Yokohama, Japan. Presented by the Yokohama Nursery Company.  
Received August 14, 1908.

The following seeds from the Jingpoo Chrysanthemum Garden. Japanese names quoted:

**23496 to 23502.** CHRYSANTHEMUM STIPULACEUM (Moench) W. F. Wight.

**23496.** "Shiro-mame." **23501.** "Murasaki-no-kuruimono."

**23497.** "Kangiku." Purple.

**23498.** Best pink. **23502.** "Oritaki-shiba."

**23499.** "Kyo-miyage." Purple.

Pink.

**23500.** "Nure-garasu."

Pink.

**23503.** ASTER sp. (?)

Purple.

**23504 to 23518.** CHRYSANTHEMUM STIPULACEUM (Moench) W. F. Wight.

**23504.** "Hano-no-seki." **23512.** "Matsu-no-yuki."

Purple. White.

**23505.** "Shukokin." **23513.** "Gano-no-yuki."

Red. White.

**23506.** "Uji-no-sato." **23514.** "Hakuhoshu."

Red. White.

**23507.** "Bushi-no-kagami." **23515.** "Jitsugetsu."

Red. White and purple mixed.

**23508.** "Date-musume." **23516.** Yellow.

Red. **23517.** "Kin-kujiyaku."

**23509.** "Okino-kaza." Yellow.

White. **23518.** "Azami."

**23510.** "Fuki-no-yama." Yellow.

White.

**23511.** "Okina-no-tomo."

White.

**23519 and 23520.** GARCINIA spp.

From Buitenzorg, Java. Presented by Dr. M. Treub. Received September 4, 1908.

**23519.** GARCINIA BENTHAMII Pierre.

"This species is very widely distributed in all the provinces of lower Cochin China and Cambodia.

"Branches opposite, tetragonal, very long. Leaves petiolate. The flowers are terminal at the summit of a short shoot more or less surrounded with bracts. They are solitary in the female plant. The petals are broader and thicker than the sepals and are yellowish. In the female flowers the stamens are completely lacking and the gynaecium has the form of a pear. The fruit retains the form of the pistil. It contains 5 to 10 seeds having the form of a crescent.

"The tree is 20 to 25 meters high, of pyramidal form. Trunk straight, 45 to 50 centimeters thick, covered with a blackish bark, rough exteriorly, filled interiorly with a white juice, present in all parts of the plant and becoming black on exposure to light.

## 23519 and 23520—Continued.

"The wood of *G. benthami* is reddish brown and very much esteemed. It is used for the same purposes as that of *G. ferrea* and differs from it very little. If we consider what Rumphius says about that of *G. celebica* L., we may regard it as established that all the *Garcinias* with a white juice have reddish brown or honey-colored wood superior to that of the other species of *Garcinia*. This observation is important for forest cultivation." (*Extract from Pierre's Forest Flora of Cochín China.*)

23520. *GARCINIA CELEBICA* L.

"This tree grows very quickly and without difficulty. The leaves have an acid flavor; the fruits remain acid a long time; their taste when they are perfectly ripe is somewhat like that of the cultivated mangosteens. An excellent jelly is made of them and a refreshing pectoral sirup which Lamarek says is in daily use at Mahé. Its fruits are used in dyeing, and their rind has astringent properties and serves to make vinegar. A viscid, milky, yellowish juice runs from incisions made in the tree, which gives a species of gum. This mangosteen grows naturally in the East Indies and is also found in the island of Bourbon and in several of the Antilles.

"It is not a very tall tree and has a large tufted top. The branches are glabrous, a little striate, slightly tetragonal, and covered with a grayish or dull red bark. The leaves are opposite, numerous, oval-lanceolate, pointed at the two ends, glabrous, green on both sides, much narrower and less thick than those of the cultivated mangosteen. The flowers are unisexual and borne on different plants. The female flowers are terminal, solitary, hardy pedunculated. The fruit is globular, of a yellowish red or saffron color, sometimes violet, crowned by the stigma; it is a little bit larger than the 'pomme d'api,' which it resembles in form.

"The yellow juice which comes from incisions in this mangosteen gives a kind of aromatic resin, sought after for medicinal purposes. The fruit furnishes a balsamic acid, and the bark tannin." (*Extract from the Medical Flora of the Antilles, by Descourtilz.*)

"These two species of *Garcinia* were introduced for testing as stocks on which to grow the mangosteen, which is notably one of the weakest rooted plants of this genus." (*Pairchild.*)

## 23522 to 23525.

From Chungking, west China. Presented by Rev. J. F. Peat. Received August 24, 1908.

Seed of each of the following. Varietal descriptions by Mr. H. T. Nielsen.

23522. *GLYCINE HISPIDA* (Moench) Maxim. Soy bean.

Greenish yellow with dark hilum.

23523. *GLYCINE HISPIDA* (Moench) Maxim. Soy bean.

Black. Similar in appearance to No. 19183.

23524. *VIGNA SESQUIPEDALIS* (L.) W. F. Wight.

Red.

23525. *PISUM ARVENSE* L. Field pea.

23526. *GOSSYPIUM HIRSUTUM* L. Cotton.

From Carácas, Venezuela. Presented by Dr. E. André, Port of Spain, Trinidad, British West Indies. Received August 28, 1908.

"A curious variety." (*André.*)

"Lint medium short staple length, drag very fine, of great strength. Probably a tropical cotton adapted to only tropical regions." (*D. N. Shoemaker.*)

23527. *MUSA PARADISIACA* L. Banana.

From Ambos, Camarines, P. I. Presented by Mr. William S. Lyon, Manila, P. I. Received September 8, 1908.

"Seed of an edible species. The fruit is large and well flavored and the farinaceous seeds are quite tender and eaten, not rejected, when the fruit is ripe. They do not harden until the fruit begins to decay. It is one of our many

**23527—Continued.**

varieties, and I can give you no specific or even local name other than 'sagin,' but as sagin is Tagalog in general for banana, it does not amount to much." (Lyon.)

**23528. FICUS CARICA L.****Fig.**

From Nodoa, island of Hainan, China. Presented by Mrs. J. F. Kelly, Holhow, island of Hainan. Received September 8, 1908.

Seeds of a Chinese fig.

"Color when ripe dark red. Grows beside running water. Figs grow on trunk of tree near base. Fruit is cool and delicious. Diameter as much as  $\frac{3}{4}$  inches; outside pulp 1 inch thick and a large ball of white custard in the center surrounded by seeds." (Kelly.)

**23529 and 23530. ACACIA spp.**

From Chico, Cal. Procured by Mr. W. W. Tracy, jr., in charge of Plant Introduction Garden. Received September 3, 1908.

Seed of each of the following:

**23529. ACACIA LONGIFOLIA (Andr.) Willd.**

Seeds from tree on Mr. Bidwell's place at Chico, Cal. For trial at Brownsville, Tex.

"A bushy Acacia useful in Australia for binding coast sands through the facility with which the lower branches throw down roots into the soil. The bark, while not so high in tannin as that of *Acacia mollissima*, is used chiefly in tanning sheep skins." (Extract from von Mueller.)

**23530. ACACIA MOLLISSIMA Willd.**

Seed procured from trees thriving in the streets of Chico, Cal. To be tested in the open at Brownsville, Tex.

"The black wattle of southeastern Australia and Tasmania. An Acacia thriving on the poorest soil and producing a bark so high in tannin as to render its cultivation very profitable, especially in Natal, where large plantations have been established on the rolling uplands; as a tan producer it is by far the most valuable of the Acacias, and the bark is especially valuable for tanning sole leather and heavy goods." (Extract from von Mueller.)

**23531 to 23534. RUBUS spp.**

From Mokanshan, China. Presented by Rev. J. M. W. Farnham, Shanghai, China. Received September 5, 1908.

Seed of each of the following:

**23531 and 23532.**

"These grow on the stem like the blackberry and have no core like the raspberry. They are both red, with a pleasant acid flavor, and might become fruitful and useful if cultivated in a proper location, or they may be useful in hybridizing experiments." (Farnham.)

**23533.**

"I found these growing wild and noticed that they resembled what I remember seeing in New England and heard called 'English black raspberry.' I transplanted some to the garden, but was told that they did not bear fruit. However, I persevered in cultivating them and they commenced bearing, and the berries have improved in size and quality until this year. Many of them were of good size and flavor." (Farnham.)

**23534.**

"These seeds are from a bush I am cultivating that I found growing wild here on the mountain 2,000 feet above the sea. It resembles the raspberry in that the lobes of the berry are arranged around a core, or center, but the vine is more like the blackberry, though the leaves are very light on the under side, almost white, like the raspberry. The lobes are slightly acid and red. They are very few at present, but I hope will increase in number with cultivation." (Farnham.)

**23535. INDIGOFERA GLANDULOSA Wendl.****Befri.**

From Baroda, India. Procured by Mr. William H. Michael, American consul-general, Calcutta, India, through Lieut. Col. M. J. Meade, C. I. E., superintendent, Baroda Presidency. Received September 4, 1908.

"The befri plant is an annual and belongs to the natural order Leguminosae. It generally grows in black soil, and does not require much water. Befri is contained in very small pods, which are gathered after the rainy season is over.

"Befri contains 21.13 per cent of albuminoids, whereas their proportions in Indian wheat and oatmeal are, respectively, 13.50 and 16 per cent. In other words, befri is 56 per cent more nutritious than wheat and 32 per cent more so than oatmeal. It is ground, mixed with flour of bajri or other less nutritious grains or grass seeds, and made into bread, bhedki, etc." (*Shamsudin J. Sulmani, chief medical officer of Baroda State.*)

**23536. CANARIUM LUZONICUM (Blume) Gray.****Pili nut.**

From Tayabas Province, P. I. Presented by Mr. William S. Lyon, Manila, P. I. Received September 8, 1908.

"I sent some of these nuts to a New York fruit seller some five years ago, and in his opinion they rivaled the famous Brazil nut (*Bertholletia*) as a dessert nut. He, however, expressed an adverse opinion of their ever having any commercial value as dessert nuts, owing to the hard shell resisting any ordinary hand nutcracker.

"In a lot I picked up in Tayabas I found two or three which, though far from having paper shells, were amenable to my heel on a board floor. I thought the matter worth looking up, and ascertained that they came from the neighborhood, and spent a few days collecting fruits from all the fruiting trees in the vicinity. Although I made no 'find,' I send on the fresh collected seeds for you to grow as stock in case I am able to secure later scions of the paper-shell variety." (*Lyon.*) (See No. 21860 for previous importation.)

**23542. CUCUMIS MELO L.****Muskmelon.**

From Paris, France. Presented by Mr. W. W. Keen, 1729 Chestnut street, Philadelphia, Pa. Received August 26, 1908.

"Seed of melons now so abundant here (Paris). They are much larger than our cantaloupe and of quite as fine a flavor, if not even better. The interior is a beautiful reddish yellow." (*Keen.*)

"This is probably one of the varieties of the large Persian melons which do not thrive in this region (Washington, D. C.), but do much better in the hot, dry climate of Colorado and westward." (*W. W. Tracy, sr.*)

**23543. PHASEOLUS VULGARIS L.****Bean.**

From Helsingfors, Finland. Presented by Mr. V. F. Sagulin. Received September 10, 1908.  
Finnish runner bean.

**23544 to 23547.**

From Ningyuenfu, Szechuan, via Chengtu, China. Presented by Rev. R. Wellwood, American Baptist Mission. Received September 10, 1908.

Seed of each of the following. Varietal descriptions by Mr. H. T. Nielsen.

**23544 to 23546. GLYCINE HISPIDA (Moench) Maxim. Soy bean.**

**23544.** Large yellow with dark hilum; similar in appearance to Nos. 19986 and 22877.

**23545.** Yellow with brown hilum; similar in appearance to No. 17862.

**23546.** Very small, black, smaller than any black-seeded soy bean we have had.

**23547. PISUM ARVENSE L.**

**Field pea.**



**23548. PSIDIUM GUAJAVA L.****Guava.**

From Bradentown, Fla. Presented by Mr. W. A. Berg, through Mr. Walter Fischer. Received September 16, 1908.

"Seed of the largest and finest fruit that I have yet seen. Weight, from 7 to 10 ounces; color of outside skin, green; when ripe the flesh is cream colored; fruit has a slight banana flavor and is late in ripening, coming in when others have gone. Flesh one-half inch thick. Seeds from 75 to 175 in number, bunched." (*Berg.*)

**23549. ARACHIS HYPOGAEA L.****Peanut.**

From Cochín China. Presented by Mr. J. E. Conner, American consul, Saigon, Cochín China. Received August 28, 1908.

"These are very small, very abundant as to the number of seeds, but about equal in weight to the yield of the Javanese peanut (about 1,700 pounds to the acre). Because of the smallness of the seed the officials at the Jardin Botanique hadn't any good words for it. I tried to discover whether they were bunched together more closely at the root of the plant, but without success. They are planted in rows, distanced 40 cm., the rows 50 cm. apart, in soil sandy, moist, and rich in nitrogen though poor in phosphoric acid, potassium, and lime." (*Conner.*)

**23551 to 23623. SOLANUM TUBEROSUM L.****Potato.**

From Chile. Procured from Mr. José D. Husbands, Limavida, Chile, through Mr. Alfred A. Winslow, American consul, Valparaiso, Chile. Received at the Mississippi Valley Plant Introduction Garden, Ames, Iowa, August, 1908.

The following tubers. Descriptive notes by Prof. S. A. Beach, Mississippi Valley Plant Introduction Garden.

**23551 to 23577.**

"Each of these is a wild variety or class of its own, sent as found growing in the virgin bush on the hills, mountain sides, and lowlands on the island of the archipelagos de Chiloé and Guaitecas. They form the sole food of the Chilote Indians and other native inhabitants. These tubers grow abundantly in spots, often very deep in the ground or gravel. Many grow from self-sown, grown, and planted seedlings. These preserve their character and improve, increase in size, and also perfect their forms for five consecutive years, when they become established sorts. Thousands have to be dug to make small collections of new kinds. Often when a little tuber is found it must wait many days for its companion to be found far away. Generally all these improve with continued cultivation. They are all good eating, especially baked; some when boiled are inclined to dissolve, but with continued planting they outgrow this fault. A collection of seedlings is more effective to work on than sowing seeds, which grow in every direction but the desired, and frequently strike back to the worthless wild sorts." (*Husbands.*)

**23551.** Dark purple, elongated, irregular. Flesh dark in center, with purple line about darker portion.

**23552.** Red, elongated, irregular.

**23553.** Purple, round, flattened, regular.

**23554.** Purple, elongated, irregular.

**23555.** Dark purple, round or elongated, irregular. Flesh yellow.

**23556.** White, purple eyes and eyebrows, elongated.

**23557.** White, round or elongated, irregular.

**23558.** White, roundish but very irregular in shape, slightly flattened.

**23559.** Pink, elongated, irregular. Flesh contains a distinct line about half way from center to circumference.



## 23551 to 23623—Continued.

## 23551 to 23577—Continued.

- 23560. White, round. Flesh deep yellow.
- 23561. Red, elongated, irregular.
- 23562. Red, oblong, irregular.
- 23563. Pink, elongated, regular.
- 23564. Purple, round, one specimen knobby, regular.
- 23565. White around eyes, balance purple, round, flattened, regular.
- 23566. Purple, round, regular.
- 23567. White, round, regular.
- 23568. White, round, regular.
- 23569. White, elongated, regular.
- 23570. White, round, regular in size, irregular in shape.
- 23571. Purple, elongated or round, irregular.
- 23572. White, blotched with pink, round, irregular.
- 23573. Dark, mottled with purple, round, irregular.
- 23574. White, oblong, very irregular and knobby.
- 23575. White, round, regular.
- 23576. White, round, regular. Flesh deep yellow.
- 23577. White, elongated, flattened.

## 23578 to 23623.

"The following represent varieties of good potatoes of wild origin from the archipelago before named. There are no duplicates; if they are alike, they came from distant parts and were grown under such distinct conditions as to location, soil, moisture, plant food, etc., as to entitle them to new classification. The smallest that were suitable for seed were collected for economy of space, which is very limited when collecting tours are made on horseback. There are all sorts—white, yellow, pink, etc., fleshed. The yellow, and some white ones, are inclined to sweetness and are of extra fine flavor. If they retain their native merits when planted in such a distant home, you will get almost any result you seek. I have, however, proved to my satisfaction that extreme changes in localities and conditions influence and alter flavor, size, and shape. Many improve, others deteriorate. The red-skinned classes sent are bad forms, but are very fine sorts to eat. Their names are of no value, as they are local Chilote Indian names; often the same potato has a different name in every locality where grown. Some of these are seedlings of the second and third years' growth. These will improve in shape, size, and flavor by planting; at least they would do so if planted in Chile. Long cultivation has made the others standard sorts, which hold their own (in Chile) with indefinite continued sowing. It will be strange if some of these will not have an affinity with your conditions. Among these you will find some extra early, others late, mostly medium early; some with a very small plant growth, others rank. While all the flowers are true *Solanum*, they are of many different sorts and colors. Some roots spread largely and yield on new growth also; others stay in their proper places. Generally speaking, all are very productive and yield from 40 to 120 for one; 60 per plant would be a safe average. Another feature is their uniformity in size and shape. All these have grown dry in short summers; that is, with natural earth moisture and the extra heavy marine dews. I do not believe such tubers have ever been tested so far inland as Iowa. That they will reproduce themselves I have little hope. In my opinion they will be much better or worse; as likely to be one as the other. From experiments I have made in Chile, this is foretold. No one knows results, as no one has ever attempted such experiments as you will make, i. e., from seaward to such a far distance inland. I have gained better results from inland to seaward. If you were to send me potatoes from Iowa and ask me to plant

## 23551 to 23623—Continued.

## 23578 to 23623—Continued.

them in Chile and afterwards return the product, I do not believe you would recognize them in any particular. I write these things for information, and not as instruction. Very many of these potatoes do not rot if left in the ground through a winter of five months' continued rain. They must be on an inclined surface for drainage of the rain." (*Husbands.*)

- 23578. Light purple, round, regular.
- 23579. White, russeted, elongated, flattened.
- 23580. Red, round, irregular. Flesh with indistinct red line about outside  $\frac{1}{4}$  inch from circumference. Flesh is streaked with red.
- 23581. White, russeted, slightly elongated and flattened.
- 23582. Faint purple, coarsely russeted, round, regular.
- 23583. White, dumb-bell shaped, irregular.
- 23584. White, elongated, flattened, regular.
- 23585. White, round, regular.
- 23586. White, elongated, flattened.
- 23587. Pink, elongated, flattened, irregular. Flesh deep yellow.
- 23588. White or red, mottled with purple, round, irregular.
- 23589. White, elongated, irregular.
- 23590. Dull red, elongated, flattened, regular.
- 23591. Red, slightly flattened, and oblong.
- 23592. Light red, round or elongated, irregular in shape and size. Mottled flesh. Much like water core in apples.
- 23593. White, round, irregular. Flesh contains yellow streaks.
- 23594. Purple, round, irregular, knobby.
- 23595. White, round or elongated, flattened, irregular.
- 23596. White, blotched with purple, round, irregular.
- 23597. Purple, slightly elongated, and flattened.
- 23598. White, some specimens russeted, irregular, slightly elongated. Flesh deep yellow.
- 23599. White, elongated, regular.
- 23600. Round, white, regular.
- 23601. Round, slightly flattened, irregular, white. Flesh yellow.
- 23602. White, elongated, regular.
- 23603. White, round, flattened, irregular.
- 23604. Red; several specimens round, the others oblong.
- 23605. White, pink around eyes, slightly elongated.
- 23606. White, elongated, irregular.
- 23607. Dull purple, round or elongated, flattened, irregular.
- 23608. White, elongated, regular. Flesh white. (Type A of Husbands.) White, round, irregular. Flesh deep yellow. (Type B of Husbands.)
- 23609. White, round, flattened, regular.
- 23610. White, round.
- 23611. White, russeted in patches, elongated, flattened, regular.
- 23612. Round.
- 23613. Red, elongated, flattened, regular. Flesh yellow.

**23551 to 23623—Continued.**

23578 to 23623—Continued.

23614. Purple with white around eyes, round, irregular. Flesh yellow, marked with red.  
 23615. White, elongated, irregular, uniform.  
 23616. Red, round, flattened, regular. Flesh streaked with red.  
 23617. White with pink eyes, elongated, irregular.  
 23618. Dull red, coarsely mottled in small patches, elongated, and flattened.  
 23619. Red, elongated, flattened, irregular. Flesh, deep yellow.  
 23620. White, elongated, irregular.  
 23621. Dull red, elongated, irregular.  
 23622. White, round or elongated, flattened, irregular.  
 23623. Red, elongated, knobby, irregular.

**23625 to 23627.**

From Orenburg, Russia. Presented by Mr. W. S. Bogdan, agronomist.  
 Received September 8, 1908.

The following seeds:

23625. *MEDICAGO FALCATA* L.                      23627. *GLYCYRRHIZA GLABRA* L.  
 23626. *LATHYRUS TUBEROSUS* L.

**23631. COLCHICUM AUTUMNALE L.****Colchicum.**

From Baumschulenweg, near Berlin, Germany. Purchased from Mr. L. Späth, for Doctor Truë's experiments. Received September 17, 1908.

See No. 23436 for description.

**23632 to 23643. MUSA spp.****Banana.**

From Ceylon. Procured by Dr. C. Drieberg, secretary, Ceylon Agricultural Society, Colombo, Ceylon, at the request of Mr. O. W. Barrett. Received September 4, 1908.

The following suckers:

- |                                      |                                 |
|--------------------------------------|---------------------------------|
| 23632. <i>Hambanpuwala.</i>          | 23638. <i>Kolikuttu.</i>        |
| 23633. <i>Suramondan.</i>            | 23639. <i>Rata Hondarawala.</i> |
| 23634. <i>Sudu Puwala.</i>           | 23640. <i>Maha Alumondan.</i>   |
| 23635. <i>Marthawala.</i>            | 23641. <i>Puspakedeli.</i>      |
| 23636. <i>Kalu Rata Hondarawala.</i> | 23642. <i>Dalena.</i>           |
| 23637. <i>Suwadel.</i>               | 23643. <i>Alumondan.</i>        |

"S. P. I. Nos. 23632 to 23641 and 23643 are varieties indigenous to Ceylon, while S. P. I. No. 23642 is a variety imported from Queensland some time since, but is by no means an improvement on the Ceylon varieties. Varieties S. P. I. Nos. 23637 and 23638 are generally considered the best." (*Drieberg.*)

**23644. COELOCOCCUS AMICARUM (Wendl.) W. F. Wight.****Caroline ivory-nut palm.**

From Philippine Islands. Presented by Mr. William S. Lyon, Gardens of Nagtajan, Manila, P. I. Received September 21, 1908.

See No. 21044 for description.

**23645. VIOLA CALCARATA L.**

From Kew, England. Presented by Mr. David Prain, director, Royal Botanic Gardens. Received September 21, 1908.

"Introduced for the purpose of hybridizing with the common pansy to produce an improved pansy that will withstand hot summer weather." (*Oliver.*)

**23646 and 23647. CERATONIA SILIQUA L.****Carob.**

From Lisbon, Portugal. Secured by Mr. Louis H. Aymé, American consul-general. Received September 21, 1908.

Cuttings of each of the following. The name of the plantation, proprietor, and the average annual production of the tree from which the grafts were cut are given.

**23646.** From Chão das Donas, plantation of Antonio José da Motta; yield 35 to 40 pounds per annum.

**23647.** From Valle de Arrecada, plantation of Joaquin Traquino; yield 15 to 20 pounds per annum.

These cuttings were procured to take the place of similar ones received in 1907 and listed under Nos. 20962 and 20963, but which died.

**23650. SOLANUM MURICATUM Ait.****Pepino.**

From Teneriffe, Canary Islands. Presented by Mr. Solomon Berliner, American consul, through the Department of State. Received September 21, 1908.

"Cuttings of a fruit known here as 'pera melon,' or melon pear. This fruit grows on bushes about 2 or 3 feet high and when ripe is yellow and the shape of a melon; in taste it is a blend between a cantaloupe and a pear." (*Berliner.*) (See No. 21546 for other importations of above.)

**23656. ROSA MOYESI Hort.****Rose.**

From London, England. Purchased from James Veitch & Sons. Received September 23, 1908.

"A very distinct Chinese species of dense habit and with very spiny growths and leaves. The latter have in most cases nine or eleven pinnæ and they are very deep green. The flowers are nearly 3 inches across, rounded, single, and made up of very thick, substantial petals. The color is deep, rich, rosy red, but the buds are of brighter hue. This new rose should prove of great value in the creation of a new race of garden roses." (*James Veitch & Sons.*)

**23658. CITRUS TRIFOLIATA L.**

From Santa Ines, Chile. Purchased from Mr. S. Izquierdo, through Mr. W. T. Swingle. Received September 25, 1908.

"I cultivated this species here and it is the stock which I use for grafting the citrus varieties producing fruits for the trade." (*Izquierdo.*)

**23659. MEDICAGO SATIVA L.****Alfalfa.**

From Lindsborg, Kans. Presented by Mr. Carl Wheeler, through Mr. J. M. Westgate. Received September 25, 1908.

*Hungarian.* "Said to be a part of a heavy shipment from Hungary to South America, but which could not be marketed in South America owing to financial stringency; several carload lots were sold to Kansas seed houses under the name of *Hungarian alfalfa*. Said to be a very hardy variety. To be grown for comparison and identification." (*Westgate.*)

**23660. PHALARIS COERULESCENS Desf.**

From Paris, France. Purchased from Vilmorin-Andrieux & Co. Received September 25, 1908.

See No. 22961 for description.

**23662 to 23710. ERIOBOTRYA JAPONICA (Thunb.) Lindl. Loquat.**

Reciprocal loquat crosses, raised at the Department greenhouses by Mr. G. W. Oliver, plant propagator. Numbered for convenience in recording distribution September, 1908.

**23662 to 23710—Continued.**

Plants of each of the following:

**23662 to 23683.**

*Olivier* × *Tanaka*.

**23684 to 23710.**

*Tanaka* × *Olivier*.

The above crosses were made between *Olivier*, S. P. I. No. 6457, and *Tanaka*, S. P. I. No. 8890.

**23711. CITRULLUS VULGARIS Schrad.**

From Egypt. Presented by Mr. Hubert S. Smiley, Gallowhill, Paisley, Scotland. Received September 23, 1908.

"Seeds of the 'Boutique el Zeit,' commonly known as the 'unedible water-melon.' This comes from south of the Bahr el Ghael and round the port of Rumbek. The natives grow it after the rains and extract the seeds and boil them. The result is an oily film on top of the water. This is removed and the process continued until an oil is procured which is said to be very good for lighting purposes. Perhaps this plant would be of service to people in out-of-the-way parts of your country. The melon is unedible." (*Smiley*.)

**23712. FESTUCA RUBRA DUMENTORUM (L.) Hackel.**

**Chewing's fescue.**

From Wellington, New Zealand. Presented by Mr. T. W. Kirk, biologist, Department of Agriculture, through Mr. C. V. Piper. Received September 28, 1908.

**23713. EUCALYPTUS MICROTHECA F. Muell.**

From Australia. Presented by Mr. W. R. Guilfoyle, director, Botanic and Domain Gardens, Melbourne, who procured it from J. Staer & Co., seedsmen, etc., Wahroonga, New South Wales. Received September 29, 1908.

See No. 23495 for description.

**23714 to 23733.**

From East Africa. Received through Mr. O. W. Barrett, Director of Agriculture, Lourenco Marquez, Portuguese East Africa, September 21, 1908.

The following seeds:

**23714. ANDROPOGON SORGHUM (L.) Brot.**

"(No. 1.) 'A sweet sorghum' in cultivation by the M'chopes Kafirs of Zavala section of Inharrime district. Height, 2.5 to 3.5 meters. Crop (second) in July." (*Barrett*.)

"Hackel's variety *rosburghii*. A 14-inch panicle, loose and open, with very slender branches. Type of the Madagascar ampembies. Glumes rather broad, reddish, hairy, becoming involute and gaping at maturity. Seeds broadly oval, pearly white." (*Carleton R. Ball*.)

**23715. ANDROPOGON SORGHUM (L.) Brot.**

"(No. 2.) A goose-neck variety in common cultivation by Kafirs in Gazaland. The best of about 6 more or less distinct sorts. Height, 3 to 6 meters. Prefers heavy alluvial soil. Native name (usually) *mapira*." (*Barrett*.)

"Fragments of the head of a white-seeded sorghum probably similar to the preceding (S. P. I. No. 23715). Glumes shorter and firmer, but involute and gaping. Seeds nearly circular." (*Carleton R. Ball*.)

**23716. ANDROPOGON SORGHUM (L.) Brot.**

"(No. 3.) A straight blackhull variety in cultivation by natives of lower Zambezi Valley. Height 3 to 4 meters." (*Barrett*.)



## 23714 to 23733—Continued.

"Variety *roxburghii* Hackel. A 14-inch head, typical, branches extremely slender, glumes narrowly ovate to lanceolate, acuminate, deep mahogany red, involute and gaping at maturity. Seeds white, oval, subacute, very similar to *shallu*." (Carleton R. Ball.)

23717. *VERNONIA* SP. (?)

"(No. 4.) Rambling shrub common in Gaza and Inharrime districts. Flowers fragrant, numerous, of unstable colors (white to bluish or rose). Ornamental. Height 5 to 10 meters." (Barrett.)

23718. *CANAVALI OBTUSIFOLIUM* (Lam.) DC.

"(No. 5.) A wild vine in open 'bush' between Chai-Chai and Inhambane. Length 4 to 8 meters." (Barrett.)

23719. *CANAVALI OBTUSIFOLIUM* (Lam.) DC.

"(No. 6.) A wild vine in 'bush' and along river banks in lower Zambezi Valley. Length 4 to 10 meters." (Barrett.)

23720. *VIGNA UNGUICULATA* (L.) Walp.

Cowpea.

"(No. 7.) A 'Kafir bean' in cultivation in the province of Inhambane. Rare." (Barrett.)

23721. *VIGNA UNGUICULATA* (L.) Walp.

Cowpea.

"(No. 8.) A very common 'Kafir bean' in Portuguese East Africa. A smaller form is not so common. Sandy soil preferred. Yield in fair soil, 5 bags (80 kilos each?) per hectare." (Barrett.)

23722. *ELEUSINE CORACANA* (L.) Gaertn.

Ragi millet.

"(No. 9.) A common crop in the lower Zambezi Valley. Prefers heavy alluvial soil. Height  $1\frac{1}{2}$  to 2 feet. Local name *naxenim*; Ichuabo name *merúbi*." (Barrett.)

23723. *ASTRAGALUS PROLIXUS* Sieber.

"(No. 10.) An erect, much-branched leguminous herb in open veld in lower Zambezi Valley. Height about 1 meter." (Barrett.)

23724. *INDIGOFERA* SP. (?)

"(No. 11.) A wild woody herb of the open veld in the lower Zambezi Valley. Height 1 to  $1\frac{1}{2}$  meters." (Barrett.)

23725. *CROTALARIA PODOCARPA* DC.

"(No. 12.) A wild woody herb of the open veld in the lower Zambezi Valley. Height  $\frac{1}{2}$  to 1 meter." (Barrett.)

23726. *INDIGOFERA HIRSUTA* L.

"(No. 13.) A woody herb of the open 'bush' and alluvial plains of Gaza and Inhambane. Height 1 meter." (Barrett.)

23727. *INDIGOFERA* SP. (?)

"(No. 14.) A creeping leguminous herb in sandy soils in Limpopo Valley (Gaza). A possible cover crop in sandy regions." (Barrett.)

23728. *GOSYPIUM* SP. (?)

Cotton.

"(No. 16.) A dwarf wild cotton of the open veld in scattered districts of Portuguese East Africa. Height about  $\frac{1}{2}$  to 1 meter. Prolific." (Barrett.)

23729. *SPATHODEA* SP. (?)

"(No. 17.) 'Ngain. A close-branched evergreen tree of the 'bush' in Gaza. Suitable for a wind belt. Flowers rather large, whitish." (Barrett.)

23730. *VIGNA* SP. (?)

"(No. 18.) A leguminous vine of the 'bush' and veld. Length, 4 to 8 meters." (Barrett.)

23731. *TELFAIREA PEDATA* (Smith) Hook.

"(No. 19.) A gigantic cucurbit apparently wild in the 'bush' of Inhambane. Dioecious. Plants live two or three years and attain a



## 23714 to 23733—Continued.

diameter at the base of some 6 inches (47 centimeters in circumference). Seeds numerous in large (12 to 18 inches in diameter) fruit. Oil of good quality; kernels said to contain 60 per cent. Planted as a new oil crop." (*Barrett.*)

23732. *SOPHORA TOMENTOSA* L.

"(No. 20.) A gray-leaved shrub or small tree growing in sand in the coast region of the Mozambique Company's territory. Suitable for a wind hedge in Florida." (*Barrett.*)

23733. *MUCUNA* sp.

"(No. 21.) Seeds found on bank of Chinde River (the north mouth of the Zambezi)." (*Barrett.*)

## 23734 to 23739.

From Sibpur, Calcutta, India. Presented by Mr. W. W. Smith, acting superintendent, Royal Botanic Garden. Received August 21, 1908.

The following seeds:

23734. *TAMARINDUS INDICA* L.

**Tamarind.**

Sweet.

23735. *CAJAN INDICUM* Spreng.

"May help us where grown in cotton fields to enrich the soil; better than cowpeas." (*H. E. Van Deman.*)

23736 to 23739. *MANGIFERA INDICA* L.

**Mango.**

23736. *Copalbhog*. (See No. 10640 for previous introduction.)

23737. *Khirsapati*.

23738. *Malda*. (See No. 9808 for previous introduction.)

23739. *Kissenbhog*.

## 23740 to 23744.

From Wellington, New Zealand. Presented by Mr. T. W. Kirk, biologist, Department of Agriculture. Received September 30, 1908.

The following seeds. Native names in quotations.

23740. *DYSOXYLUM SPECTABILE* (Forst.) Hook.

*Kohekohe*. "A handsome round-headed tree 25 to 50 feet high, 1 to 3 feet in diameter; flowers waxy white.

"Timber suitable for inlaying and furniture; leaves bitter and tonic." (*Extract from Cheeseman's Man. N. Zeal. Fl.*)

23741. *SOPHORA TETRAPTERA* J. Mill.

*Kowhai*. "A small tree with exceedingly hard and durable wood, which can be used for cog wheels and other select structures. Trunk exceptionally attaining a diameter of 3 feet. The wood differs much from that of *S. tomai* of the Easter Islands [Dr. Phillippi]." (*Von Mueller.*)

23742. *NAGEIA EXCELSA* (D. Don) Kuntze. (*PODOCARPUS DACRYDIOIDES* A. Rich.).

*White pine*, or *Kahikates*. "One of the tallest trees of the colony; said to occasionally attain the height of 150 feet. The wood is white or pale yellow, tough and compact, straight grained and easily worked, but unfortunately not durable when in contact with the ground or where regularly exposed to dampness. It is very suitable for inside work of all kinds." (*T. F. Cheeseman, Fl. N. Zealand.*)

23743. *MYRSINE URVILLEI* A. DC.

*Te Pau*. "This is a small closely branched tree, 10 to 20 feet high; bark red on the young branches. The leaves are alternate, oblong, nearly smooth, margins undulate. The flowers are crowded in fascicles on the

**23740 to 23744—Continued.**

branches below the leaves; small, whitish. The ovary has a large sessile-fringed stigma. The fruits are small, round, and black.

"These characters seem to me to be of importance in an ornamental way, if the tree will stand our climate." (*H. C. Skeels.*)

**23744. CLIANTHUS PUNICEUS (Don) Soland.**

"This is an old-fashioned greenhouse plant, grown sometimes to cover rafters or trellis work, but more frequently trained around sticks placed around the edge of the pot. Cultivated in eastern greenhouses, and a favorite Californian outdoor shrub. Blooms all winter in Golden Gate Park, San Francisco. The flowers, not very unlike those of the common *Erythrina*, are freely produced in hanging clusters. Cuttings rooted in early spring may be grown into good-sized plants during the summer. Water should be given sparingly during the dull months. Pruning, repotting, and tying the shoots should be done just before the growth begins. A sharp lookout should be kept for the red spider, frequent syringings being the only remedy for this pest." (*G. W. Oliver and W. M., in Encyc. of Amer. Hort.*)



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U. S. DEPARTMENT OF AGRICULTURE.

BUREAU OF PLANT INDUSTRY—BULLETIN NO. 153.

B. T. GALLOWAY, *Chief of Bureau.*

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# SEEDS AND PLANTS IMPORTED

DURING THE PERIOD FROM OCTOBER 1

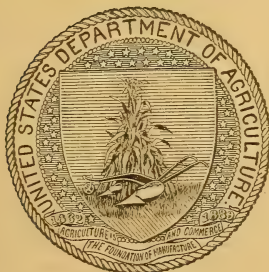
TO DECEMBER 31, 1908:

*Mr. Harden*

INVENTORY No. 17; Nos. 23745 to 24429.

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ISSUED JUNE 30, 1909.



WASHINGTON:

GOVERNMENT PRINTING OFFICE.

1909.

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BUREAU OF PLANT INDUSTRY—BULLETIN NO. 153.

B. T. GALLOWAY, *Chief of Bureau.*

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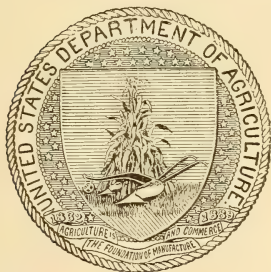
# SEEDS AND PLANTS IMPORTED

DURING THE PERIOD FROM OCTOBER 1  
TO DECEMBER 31, 1908:

INVENTORY No. 17; Nos. 23745 TO 24429.

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ISSUED JUNE 30, 1909.



WASHINGTON:  
GOVERNMENT PRINTING OFFICE.  
1909.



## BUREAU OF PLANT INDUSTRY.

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*Editor*, J. E. ROCKWELL.

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---

### FOREIGN SEED AND PLANT INTRODUCTION.

#### SCIENTIFIC STAFF.

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Albert Mann, *Expert in Charge of Special Barley Investigations*.

F. W. Clarke, *Special Agent in Charge of Matting-Rush Investigations*.

Frederic Chisolm, *Expert*.

Walter Fischer, R. A. Young, and H. C. Skeels, *Scientific Assistants*.

## LETTER OF TRANSMITTAL.

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U. S. DEPARTMENT OF AGRICULTURE,  
BUREAU OF PLANT INDUSTRY,  
OFFICE OF THE CHIEF,  
*Washington, D. C., April 14, 1909.*

SIR: I have the honor to transmit herewith and to recommend for publication as Bulletin No. 153 of the series of this Bureau, the accompanying manuscript, entitled "Seeds and Plants Imported During the Period from October 1 to December 31, 1908: Inventory No. 17; Nos. 23745 to 24429."

This manuscript has been submitted by the Agricultural Explorer in Charge of Foreign Seed and Plant Introduction with a view to publication.

Respectfully,

B. T. GALLOWAY,  
*Chief of Bureau.*

HON. JAMES WILSON,  
*Secretary of Agriculture.*



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## SEEDS AND PLANTS IMPORTED DURING THE PERIOD FROM OCTOBER 1 TO DECEMBER 31, 1908: INVENTORY NO. 17; NOS. 23745 TO 24429.

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### INTRODUCTORY STATEMENT.

It has been the custom for some time to mention in the introductory statement a few of the new arrivals which seem to be worthy the particular attention of the interested plant breeders and experimenters throughout the country. This does not mean that they will in the end prove the most valuable, for often the promising introductions are "dead failures," while those which come in like poor emigrants with scarcely a letter of introduction frequently crop up later somewhere in the country as new and valuable cultivated plants.

Those who are interested in the remarkable Chinese vegetables, whose possibilities have not at all been tested as they should be in this country, will find Mr. Meyer's collection, which he brought back personally from Peking, a most interesting one (No. 23932 and following). There can be little doubt that the Chinese restaurants which are scattered all over the country are creating a taste among Americans for these new vegetables, and the next step in their introduction will be their culture on a small scale to supply the growing demand of these restaurants.

Mr. W. T. Swingle has called attention to the possibilities of the Indian bael fruit (No. 23745), both as a possible new fruit which is prized in India and as a dry-land stock for the orange, and living plants of it have been secured.

Through Mr. Pink, a plant breeder of Queensland, a new raspberry has been secured which he claims has already become a favorite in Australia (No. 23478).

The Florida and California growers of the fruiting hedge plant *Carissa* will be interested in the newly secured species from Calcutta (No. 23750).

A new green-manure legume from Sao Paulo, Brazil, is highly recommended by Professor Hart (No. 23751).

A large collection of beans, cowpeas, squashes, field peas, and garbanzos and some remarkable hard-stemmed bamboos, which are quite different from the ordinary oriental bamboos, have been sent by Mr. Husbands (No. 23755 and following; No. 24211 and following; No. 24358 and following).



A number of additions to the strains or varieties of alfalfa have been made from Peru, Australia, Spain, and Chile. These are eagerly tried by the experts of the Department, who recognize the great possibilities which lie in any strain of this important plant which may fit into one of the many special conditions in the country.

A collection of seed from grasses representing the best grazing species on the veldt of Rhodesia (No. 23920 and following) will be tested by the agrostologist of the Department.

Mr. Meyer's collection of Chinese hollyhocks, prince's-feathers, morning-glories, four-o'clocks, balsams, Chinese pinks, marigolds, garden asters, etc., may have something of decided interest in it for American florists (No. 23995 and following).

A number of Syrian pomegranates from Sidon have come in for the experiments of the specialist of the Department, who is showing the possibilities of this fruit in America, which has so far been neglected by Americans.

A wild gooseberry from an altitude of 10,000 feet, which is used as a hedge plant in the Szechuan Province of central China, and a wild strawberry of good flavor from the same locality have been secured by Mr. Wilson, of the Arnold Arboretum (Nos. 24156 and 24165).

Two wild and possibly valuable dahlias from Mexico were sent in by Doctor Rose for the dahlia breeders (Nos. 24168 and 24169).

The Bahia Navel orange has been reimported by Consul Demers direct from Bahia, scions being taken from trees that were grafted on the "Laranja da terra" which are said to yield better fruits than those grafted on the "Laranja tanga," two different stocks in use there.

A distinct variety of the Para grass which has been so valuable in Texas has been secured from southern Brazil for trial in comparison with that already introduced (No. 24402).

A collection of *Stizolobium*, or velvet beans, has been sent on request by Director Treub, of the Royal Botanic Gardens of Java, for the purpose of comparison with the recently introduced species from the Philippines which has proved so unusually promising.

The inventory covers a period of three months, from October 1 to December 31, and includes 685 separate introductions. The preparation of the manuscript has been in the hands of Miss Mary A. Austin, and the determinations of the material have been made by Messrs. W. F. Wight and H. C. Skeels, of the Office of Taxonomic and Range Investigations.

DAVID FAIRCHILD,  
*Agricultural Explorer in Charge.*

OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION,  
*Washington, D. C., April 3, 1909.*

# INVENTORY.

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**23745. BELOU MARMELOS (L.) W. F. Wight. Bael tree.**

From Savannah, Ga. Presented by Rev. Henry W. Hale. Received October 6, 1908.

See No. 22957 for description.

**23746. BAMBOS SENANENSIS Franch. et Sav. Bamboo.**

From Japan. Presented by the Yokohama Nursery Company, Yokohama, Japan. Received October 2, 1908.

"*Misuzudake*. This is a dwarf variety of bamboo growing wild at high altitude in the province of Shinshiu." (*Yokohama Nursery Company*.)

**23747. MANGIFERA INDICA L. Mango.**

From Amritsar, Punjab, India. Procured from Mr. Theo. C. Maller. Received October 8, 1908.

*Maller.*

**23748. RUBUS ROSAEFOLIUS ♀ × ELLIPTICUS ♂. Raspberry.**

From Wellington Point, Brisbane, Queensland, Australia. Presented by Mr. James Pink. Received October 3, 1908.

"*Federal*. This is a cross between a variety received from Japan under the name of *Rubus flava* (= *R. ellipticus* Sm.), a strange growing plant, but useless commercially; this was the male parent, the mother parent being our native *Rubus rosae-folius* Sm. I crossed the plants in 1901. I did not think much of the product till the present season, when the variety has improved much by cultivation and has become a great favorite in the markets; in fact, it is the only *Rubus* grown for commercial purposes in Queensland. The fruit is larger than the English raspberry and of a bright crimson color." (*Pink*.)

**23749. MEDICAGO SATIVA L. Alfalfa.**

From Lima, Peru. Presented by Señor Ignacio La Puente, through Mr. Charles J. Brand. Received July 10, 1908.

"Señor La Puente states that this seed is from the latest crop, that it emanates from the Department of Supe, and that the variety is one greatly prized in the coast country of Peru. Kaerger in his paper 'Die Landwirthschaft in Peru' states that in the coastal region of Peru, alfalfa, strange to say, will not grow in the height of summer (January and February), even though it be given ample irrigation. The esteem in which this variety is held may bear some relation to this fact." (*Brand*.)

**23750. CARISSA CARANDAS L.**

From Sibpur, Calcutta, India. Presented by Mr. W. W. Smith, acting superintendent, Royal Botanic Garden. Received October 1, 1908.

**23750—Continued.**

"A dense, spiny shrub or sometimes a small tree, flowering from February to April (in India) and bearing a small fruit which is grape-green when young, changing to white and pink as it approaches maturity, and black when fully ripe. The fruit ripens from July to August.

"In India the fruit is made into pickle just before it is ripe, and is also employed in tarts and puddings. For these purposes it is said to be superior to any other Indian fruit. When ripe it makes a very good jelly equal to the red currant, for which purpose it is cultivated in the gardens owned by Europeans. The shrubs are also grown for hedges." (*Watt, Dictionary of Economic Products of India*, 2:165. 1889.)

"This ought to be of value in southern California where the red currant does not thrive." (*W. F. Wight*.)

**23751. STIZOLOBIUM sp.**

From Piracicaba, São Paulo, Brazil. Presented by Prof. J. William Hart, director, Agricultural College. Received September 14, 1908.

"I think this will prove one of our best legumes for green manuring." (*Hart*.) Grown from No. 21094. See this number for description.

**23752 and 23753. MEDICAGO SATIVA L.****Alfalfa.**

From Australia. Presented by Mr. Elwood Mead, The State River and Water Supply Commission, Treasury Gardens, Melbourne, Australia, who procured the seed from F. H. Brunning, Pty. Ltd., Melbourne, Australia, at the request of Mr. Charles J. Brand. Received August, 1908.

Seed of each of the following:

**23752.** *Hunter River or Tamworth.* "This comes from the chief alfalfa-growing district in Australia." (*Mead*.)

**23753.** *Queensland.* "This alfalfa was grown at Clifton on the Downs by a man who is well up in the saving of a good strain of broadleaf alfalfa." (*Brunning*.)

**23754. EDGEWORTHIA GARDNERI (Wall.) Meism.****Mitsumata.**

From Yokohama, Japan. Procured from the Yokohama Nursery Company. Received October 12, 1908.

See No. 9162 for description.

**23755 to 23869.**

From Chile. Received from Mr. José D. Husbands, Limávida, Chile, October 7, 1908.

The following seeds and plants, descriptive notes by Mr. Husbands; native names quoted:

**23755 to 23759. PHASEOLUS VULGARIS L.****Bean.**

**23755.** Extra fine. Grown dry in sandy soil, coast.

**23756.** "*Amidon*" (starch). Extra good.

**23757.** "*Coscorones Baya Pintado*." Extra good class for any use. Good land.

**23758.** "*Bayas Chico*" (small bay).

**23759.** "*Mendez*." Grown in black clay, irrigated.

**23760. VIGNA UNGICULATA (L.) Walp.****Cowpea.**

"*Corregüela*." Very good and extra prolific at the tops or points.

## 24755 to 23869—Continued.

23761 to 23834. *PHASEOLUS VULGARIS* L.

Bean.

23761. Name unknown. Extra fine class.

23762. "*Coscorones Baya*." Extra fine class. Prolific.23763. "*Entremetido Chico*" (small meddler). A commercial bean largely sown but not of the best quality. Stands droughts and grows in any soil.23764. "*Blanco*." Extra good for any purpose.23765. "*Barroso*" (muddy). Extra good class.

23767. Extra early.

23768. "*Aparcido*" (found). White pods.

The above (S. P. I. Nos. 23755 to 23768) grown by irrigation.

23769 to 23786. Grown dry about 10 miles from the sea.

23769. "*Rosilos de Reigo*." Largely sown.23770. "*Rosilos de Rulo*." Largely sown.23771. "*Poratos Lacre*" (red beans). Grown dry in poor sandy soil.

23772. Grown in poor light soils.

23773. White. Extra fine class; grown in poor soil.

23774. Yellow. Grown dry on coast.

23775. Extra good class; grown in poor soil.

23776. Extra fine; grown in sandy soil.

23777. "*Bayas Chico*" (small bay). Grown in poor soil. Seed mixed.23778. "*Mantequilla*" (butter). Extra superfine class.

23779. Yellow and red. Grown in poor sandy soil.

23780. "*Burro Claro*" (light-colored donkey). Extra good class; grown in poor soil.

23781. Light yellow, medium size. Grown in poor soil.

23782. Cream and black. Medium quality; grown in bad soil.

23783. "*Burro Oscuro*" (dark donkey). Extra good class; grown in poor soil.

23784. Light yellow. Grown dry on the coast.

23785. Small, white, good; grown in bad soil.

23786. "*Amarillos Chico*" (small yellow). Grown in poor soil.

23787 to 23828. Stringless or garden beans grown by irrigation.

23787. Mixed, grown in clay soil.

23788. Round, yellow.

23789 and 23790. (No description.)

23791. Very good and productive.

23792 to 23795. (No description.)

23796. Brown.

23797. Good class.

23798 and 23799. (No description.)

23800. "*Palo*" (stick).

## 23755 to 23869—Continued.

## 23761 to 23834—Continued.

## 23787 to 23828—Continued.

- 23801. Good sort.
- 23802. "*Siete Semanas*" (seven weeks). Good.
- 23803. (No description.)
- 23804. "*Overos*." Good.
- 23805. Early and very prolific.
- 23806. Extra early and prolific.
- 23807. Can be grown dry in loose, sandy soil.
- 23808. Can be grown dry in loose, sandy soil.
- 23809 to 23811. (No description.)
- 23812. A good class.
- 23813 to 23815. (No description.)
- 23816. Geese beans.
- 23817 to 23819. (No description.)
- 23820. Green color. Rare.
- 23821 to 23827. (No description.)
- 23828. An extra early bean; grows two crops per year when irrigated.
- 23829 to 23834. Stringless or garden beans from the coast; grown dry.
- 23829. "*Trigo*" (wheat). Extra superfine quality. Prolific.
- 23830. Extra prolific.
- 23831. "*China Lejos Grande*." Grown dry in any soil.
- 23832. All sorts. Grown dry in any soil.
- 23833. Grown in poor, sandy soil.
- 23834. No name.

23835 and 23836. *PHASEOLUS COCCINEUS* L. **Scarlet runner bean.**

23835. Pink.

23836. "*Parjares*." Said to be different from other white classes.  
Grown by marine dews only.

These beans grow in any soil without losing their size or merit. The difference between suitable good and bad land sowing is chiefly in the greater or lesser yield.

23837 to 23840. *CUCURBITA* sp.**Squash.**

23837. Extra good class.

23838. Extra good; sweet, fiberless, prolific, meat solid; small cavity for seeds.

23839. A very good class.

23840. Pinkish color, large, thick flesh, sweet, mealy, prolific, good.

23841. *CUCURBITA MAXIMA* Duch.**Squash.**

Extra good class.

23842 to 23844. *CUCURBITA* sp.**Squash.**

23842. Black skinned; thick, sweet, fiberless flesh; extra good.

**23755 to 23869—Continued.****23842 to 23844—Continued.****23843.** Extra good class.

The above (S. P. I. Nos. 23837 to 23843) grown by irrigation.

**23844.** Not as good as watered sorts.**23845. CUCURBITA MAXIMA** Duch.**Squash.**

Good class; sweet, thick, fiberless meat.

The above (S. P. I. Nos. 23844 and 23845) grown dry near the coast. The squashes grown dry are of little merit when compared with the irrigated sorts.

NOTE.—“These squashes listed as *Cucurbita* sp. are probably *Cucurbita maxima* Duch., but not determinable until grown. These seeds are very different from any squash seeds found heretofore.”—(W. F. Wight.)

**23846 to 23851. PISUM ARVENSE** L.**Field pea.**

The following are common field peas grown dry in poor, sandy soil:

**23846.** A large, extra sweet field pea; fall sown.**23847.** The most ordinary sort.**23848.** The most ordinary sort; seed mixed.**23849.** Ordinary white peas; grown in poor soil.**23850.** Common peas; grown in poor soil.**23851.** Grown in bad soil.**23852 to 23855. CICER ARIETINUM** L.**Chick-pea.****23852.** “*Garbanzos Chico*” (small). Grown dry in red clay.**23853.** “*Garbanzos Grande*” (large). Grown dry in loose soil near coast.**23854.** “*Garbanzos Negro*” (black). Grown dry in red clay.**23855.** “*Garbanzos Grande*” (large). Grown dry in clay soil.

These peas (S. P. I. Nos. 23846 to 23855) are not samples of the many best classes that can be had elsewhere in Chile, but are samples of the common hardy sorts that grow dry on hills whose soil is so poor that no vegetation of any kind exists except a few stunted red oaks. These are sown broadcast upon the ground and plowed in.

**23856 and 23857. LATHYRUS SATIVUS** L.**Grass-pea.****23856.** “*Chicharos Grande*” (large). Grow dry in any soil. Grow larger or smaller according to the quality of the soil.**23857.** “*Chicharos Chico*” (small). Grow dry in any soil. Always small no matter what class of soil.**23858 and 23859. LENS ESCULENTA** Moench.**Lentil.****23858.** “*Lentejas Rosillos*” (gray lentil). Grown dry in bad soil.**23859.** Common lentils. Grown dry in bad soil.**23860. PISUM SATIVUM** L.**Pea.**“*Arvejones*.” A class of stringless peas. Both peas and pods are eaten.**23861. HORDEUM VULGARE** L.**Barley.**

“*Poda*.” Grain head has 8 rows. This is mixed with other classes having 2, 4, and 6 rows of grain, respectively. The 4-rowed is called “*Caballuna*.”

**23862. HORDEUM** sp.**Barley.**

Common class grown in damp land; is discolored by the moisture of heavy dews.



**23755 to 23869—Continued.****23863. JUGLANS NIGRA L.****Black walnut.**

Black walnuts long grown dry in Chile, but are not native of the country.

**23864. CHUSQUEA VALDIVIENSIS E. Desv.****Bamboo.**

Colihue or bamboo. Solid stem, grows about 20 to 25 feet high, slightly drooping, small scant foliage, short joints, very tough, grows dry on any poor soil, extra hardy.

**23865. CHUSQUEA VALDIVIENSIS E. Desv.****Bamboo.**

Colihue or bamboo. Solid stem, grows straight from 25 to 30 feet high, abundance of small, long-leaved foliage, a good industrial class, grows dry on any arid soil, extra hardy.

**23866. ARUNDO DONAX L.****Giant reed.**

Colihue or bamboo. Hollow stem, grows erect, about 25 to 30 feet high; roots extend on top of the ground. From top to bottom has a rank leaf growth, like corn leaves, extending from two opposite sides; the second year it throws out branches. A valuable commercial class, extra hardy, resists droughts. This was found growing on pure sand which dries to a powder eight months of the year.

All of the above (S. P. I. Nos. 23864 to 23866) are from the Coast Cordilleras about 35 to 40 miles from the sea, are readily eaten by all animals; extra hardy.

**23867. CHUSQUEA QUILA (Poir.) Kunth.****Bamboo.**

Quila. A long-leaf-stem class about 20 feet long; grows drooping.

**23868. CHUSQUEA QUILA (Poir.) Kunth.****Bamboo.**

Quila. A drooping class whose short leaves grow in bunches close to the stem from each joint. When the leaves are eaten they quickly grow again and also sprout anew. A good forage class. From 10 to 20 feet long.

**23869. CHUSQUEA QUILA (Poir.) Kunth.**

Quila. Similar to S. P. I. No. 23867 in leaf; plant somewhat dwarfed; grows from 6 to 12 feet long.

All of the above (S. P. I. Nos. 23867 to 23869) are from the Coast Cordilleras about 40 miles from the sea, are extra hardy and grow dry in poorest arid soils.

**23870. RUBUS PANICULATUS Smith.****Raspberry.**

From Jaunsar District, Chakrata U. P., India. Presented by Mr. H. G. Billson, Deputy Conservator of Forests, requested by Mr. David Fairchild at the suggestion of Mr. Henry M. Dumbleton, Victoria, British Columbia. Received October 13, 1908.

"This 'blue raspberry' grows sparingly in the forests in the Jaunsar District. The bush is small and trailing; the fruit is about the size of a logan berry, but with a beautiful blue bloom, and is excellent eating." (*Dumbleton.*)

"This raspberry is the '*Kala Anchu.*' It grows best below 6,000 feet and likes damp, shady ravines." (*Billson.*)

**23871. MEDICAGO SATIVA L.****Alfalfa.**

From Elche, Spain. Presented by Dr. L. Trabut, government botanist, Algiers, Algeria, through Mr. Charles J. Brand. Received February 14, 1908.

"This sample of alfalfa was grown at Elche, Spain, where Doctor Trabut personally collected it. It has unusually large leaves and Doctor Trabut regards it as being distinct from Algerian alfalfa." (*Brand.*)

**23872 to 23881.**

From Paris, France. Presented by Mr. E. Tisserand, Minister of Colonies, Jardin Colonial. Received October 4, 1908.

The following plants:

**23872 to 23874.** MUSA PARADISIACA L. **Banana.**

**23872.** *Chec Chuwa* (Cambodia).

**23873.** *Primitivo* (Colombia).

**23874.** *Gabou* (Réunion).

**23875.** MUSA CAVENDISHII Lamb. **Banana.**

Sweet (New Caledonia).

**23876 and 23877.** COLOCASIA ESCULENTA (L.) Schott.

**23876.** Green.

**23877.** Violet.

**23878.** BOMBAX MACROCARPUM (Cham. & Schlecht.) Schum.

**23879.** PASSIFLORA LAURIFOLIA L.

**23880.** PASSIFLORA sp.

(Mexico.)

**23881.** AMORPHOPHALLUS BULBIFER (Roxb.) Blume.

**23882. GARCINIA CORNEA L. (?)**

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Department of Agriculture. Received October 15, 1908.

"The *Garcinia cornea* L. is a small tree, with horizontal branches; leaves, leathery, shining. Fruit the size of a small orange, bright red; seeds inclosed in a white, juicy, very acid aril." (*Hooker, Flora of British India.*)

"An evergreen tree; yields an inferior kind of gamboge; wood brown, heavy, of a coarse unequal fiber, hard, rather close grained." (*Watt, Economic Products of India.*)

"Imported for use in solving the mangosteen problem." (*Fairchild.*)

**23894 and 23895. RUBUS CHAMAEMORUS L.**

From Harrington Harbor, Canadian Labrador. Presented by Miss Edith Mayon, Deep Sea Mission Hospital. Received October 17, 1908.

"Plants and fruits of what is locally called the *Bake apple*; it resembles a yellow raspberry in color and size, tastes of honey and bananas mixed, grows in moist ground on a plant 4 inches high; the flower is white. It is very hardy, for our winters are long and severe, the surface of the ground is still frozen (May 26) and there is snow in all the hollows and shady places." (*Mayon.*)

**23896. MEDICAGO SATIVA L. Alfalfa.**

From Lima, Peru. Presented by Señor Ignacio La Puente, through Mr. Charles J. Brand. Received September, 1908.

"This seed probably originated in the vicinity of Supe, in the coastal plain region of Peru." (*Brand.*)

**23897. CRYPTOCARYA RUBRA (Mol.) Skeels. (PEUMUS RUBRA MOL. SAGG. CHIL. 185. 1782.) (CRYPTOCARYA PEUMUS NEES.)**

From Coronel, Chile. Presented by Mr. Teodoro Finger, Estación Colico, through Mr. O. W. Barrett. Received October 20, 1908.

**23897—Continued.**

"A beautiful Chilean tree, persistent leaves, produces a small pink fruit of the size of a small olive; natives eat the fruit after boiling it. Very ornamental when fruits are ripe. Requires wet soil, can stand frost, grows best in valley protected from wind, in forests." (*Finger.*)

**23899. UVARIA RUFA (Dun.) Blume.**

From Pampanga, Philippine Islands. Presented by Mr. William S. Lyon, Gardens of Nagtajan, Manila, P. I. Received October 20, 1908.

"Small evergreen fruit tree, from sea level up to 2,000 feet, lat. 10½° S. to 16° N. Fruits oblong (5 cm. × 3 cm.) in grape-like clusters, 10 to 30 berries. These are edible and fairly palatable. Intense vermilion red, making tree in fruit very attractive." (*Lyon.*)

**23900. ACTINIDIA ARGUTA (S. & Z.) Planch. (?)**

From Marblehead, Mass. Received October 21, 1908.

"From a 20-year-old vine on the place of Mr. Charles N. Parker, Marblehead, Mass. This vine has borne fruit regularly since it was 8 to 9 years old, and I saw fruit on it. There can be no doubt, therefore, that it is the female variety and a good bearer. The fruit is of delicate flavor." (*Fairchild.*)

**23901. CECROPIA PELTATA L.**

From Kingston, Jamaica. Presented by Mr. W. Harris, superintendent, Public Gardens, Department of Agriculture, through Mr. P. J. Wester, Subtropical Garden, Miami, Fla. Received October 23, 1908.

"A variety of the urticaceous quick-growing *Cecropias* with edible, not very well-flavored fruits; available as a shade tree, abundant in the warmer valleys and rain-forests of Mexico. Introduced for testing at the Subtropical Garden, Miami, Fla." (*Chisolm.*)

**23902. MEDICAGO SATIVA L.****Alfalfa.**

From Peru. Presented by Mr. T. F. Sedgwick, Lima, Peru, for Mr. C. V. Piper. Received October 6, 1908.

*San Pedro.*

**23913. PINUS DENSIFLORA Sieb. & Zucc.****Pine.**

From near Tungling, Chihli, China. Received through Mr. Frank N. Meyer, agricultural explorer, summer of 1908.

"(No. 1172a, Nov. 29-08.) This pine grows all over northern China and seems to vary a great deal." (*Meyer.*)

**23914. NICOTIANA TOMENTOSA Ruiz. & Pav.**

From Eriurt, Germany. Purchased from Messrs. Haage & Schmidt, at the request of Mr. A. D. Shamel. Received October 26, 1908.

"I know very little about this species, but it was purchased at Mr. George W. Oliver's suggestion in connection with our work in hybridizing tobacco. It is a very large species, with large leaves and tall stem. At present it is mainly of scientific interest, but on account of its leaf size would probably be valuable as a parent for a composite cross in regions where the yield of tobacco is the main consideration." (*J. B. Norton.*)

**23915. CARICA PAPAYA L.****Papaw.**

From Singerton, near Hectorspruit, Transvaal, South Africa. Presented by Prof. J. Burt Davy, government agrostologist and botanist, Transvaal Department of Agriculture, Pretoria, Transvaal, South Africa. Received October 26, 1908.

"These seeds were procured at an altitude of 1,200 feet, subtropical climate and rather dry. The flavor was excellent, and though I can not say that it will prove superior to that of some grown in the States, it is worth trying." (*Davy.*)

**23916. PHASEOLUS LUNATUS L.**

From Rio Mucury, Brazil. Presented by Mr. Fred Birch, Casa do Correio, Theophilo Ottoni, Minas Geraes, Brazil. Received October 26, 1908.

"We have become acquainted with a remarkable legume here. It is a vine which grows to a length of 40 to 50 feet or more, straggling over 3 or even 4 trees of the size of orange trees. It bears its pods of (we have heard) 'most delicious' beans for 3 years in succession, and is very accommodating to a planter who is hard pressed for time, for the beans will remain good on the vine for a long time after they are ripe. Wherever the summer is hot enough, as in Florida, and there is no frost, it would thrive, I think. The only thing it wants is a fertile soil and trees to climb over. One plant will yield a large quantity of beans; on one I saw there were, I should think, 100 pods. The beans are so good that one friend said 'Everyone is mad after them.'" (*Birch.*)

**23917. CARICA sp. Wild papaw.**

From Upper Rio Mucury, Brazil. Presented by Mr. Fred Birch, Casa do Correio, Theophilo Ottoni, Minas Geraes, Brazil. Received October 26, 1908.

"Seed of a tree called the 'wild mamau' i. e., wild papaw, as it (the fruit) greatly resembles a papaw in shape. The tree has a large, thick, quickly tapering trunk about 2 feet 6 inches in diameter at the base and a comparatively small head, so that one is quite a remarkable object in the landscape; naturally it only grows in rich forest soil and usually on a slope. Whenever the natives find a young one in the forests they always take it home and plant it near their door, as it is in great repute as a medicine tree. They firmly believe that there is no finer remedy for anæmia than its fruits. Do not forget that this fruit is a somewhat difficult one to eat. It has the strange effect of scratching the tongue and sides of throat so much as to draw blood. Whether this is due to minute spicules of flinty substance or a corrosive property of the juice I have not yet found out, but I found that when my mouth and throat had become hardened by eating 3 or 4 I could take them with impunity. The largest fruits are quite small compared to the cultivated papaw, being only 4 inches long and 1½ inches in diameter, of a bright orange color, with tender skin and of luscious appearance. The foliage is very ornamental, like horse-chestnut in miniature; it is quite striking and unlike every other forest tree here." (*Birch.*)

**23918 and 23919.**

From New York. Presented by Mr. George V. Nash, head gardener, New York Botanical Garden, Bronx Park, New York City, at the request of Mr. Frank N. Meyer. Received October 26, 1908.

Seed of each of the following:

**23918. BERBERIS AMURENSIS Rupr.**

"Stock secured from Biltmore Nursery in 1903." (*Nash.*)

"A densely branched shrub 4 to 5 feet high, quite variable, as seen in the New York Botanic Garden. At the time of my visit, early in September,

**23918 and 23919—Continued.**

1908, the bushes were most heavily loaded with bright scarlet berries, making them extremely ornamental. Mr. Nash said that, in his expectation, this particular variety may even replace *B. thunbergii* on account of its early and ornamental fruiting capacities." (Meyer.)

**23919. LIGUSTRUM sp.**

"This came to us as *Ligustrum massaloungianum*." (Nash.)

"A remarkable privet, with rather large leaves, of dark green, glossy appearance. Grows very densely branched and is of somewhat fastigiate habit. May be of use in hybridization work when attempts are being made to create a privet combining the hardiness of *L. ibota* with the leaf characteristics of *L. ovalifolium*." (Meyer.)

**23920 to 23929.**

From South Africa. Presented by Mr. W. C. S. Paine, through Mr. W. D. Warne, Cecil Hotel, Umtali, Rhodesia, South Africa. Received July 20, 1908.

Seed of each of the following:

23920. ERAGROSTIS sp.

23921. ERAGROSTIS sp.

23922. BAMBOS (?).

23923. TRISTACHYA BISERIATA Stapf.

23924. TRISTACHYA REHMANNI Hack.

23925. POGONARTHRIA FALCATA (Hack.) Rendle.

23926. PANICUM SERRATUM (Thunb.) R. Br.

23927. THEMEDA FORSKALII Hack.

23928. ANDROPOGON RUFUS (Nees) Kunth. (?)

23929. ANDROPOGON PLEIARTHON Stapf. (?)

"The above selection I made from veldt cattle favor, although I can not claim to state with any authority the specific value of the grasses. The soil is dioritic, a sandy loam, varying in color from pinkish red, deep red, and chocolate." (Paine.)

**23930 to 24113.**

From China. Brought by Mr. Frank N. Meyer, agricultural explorer, direct from China. Turned over to this office to be numbered for distribution October, 1908.

The following seeds:

23930. ASTRAGALUS SINICUS L.

"(No. 986a, May 31, 1908.) A few seeds of a most important leguminous plant, which is grown and plowed under for manure on low-lying rice fields. Sown in the autumn in rows or broadcast, plowed under in May or early June just before the rice has to be planted. According to the Chinese, is not fit as a cattle food. Collected on some bamboo boxes while en route to America aboard S. S. *Ashtabula*, the soil coming from near Hangchow, Chekiang, China." (Meyer.)

23931. MEDICAGO DENTICULATA Willd.

**Bur clover.**

"(No. 987a, May 28, 1908.) A yellow-flowered bur clover, grown by the Chinese on low-lying rice fields as a winter crop, to be plowed under in spring, serving as manure. Mostly sown in autumn in rows or broadcast after coming up by itself. The cattle feed eagerly upon this crop. Collected on some



**23930 to 24113—Continued.**

bamboo boxes aboard S. S. *Ashtabula*, while en route to America, the soil coming from near Hangchow, Chekiang, China." (Meyer.)

**23932. LAGENARIA VULGARIS Ser****Gourd.**

From Chinanfu, Shantung, China. "(No. 988a, September, 1908.) A small-fruited ornamental gourd, out of which the Chinese manufacture little carved vessels for ornaments." (Meyer.)

**23933. CUCURBITA sp.**

From Spask, eastern Siberia. "(989a, Oct. 20, 1906.) An ornamental gourd, producing remarkable quaint fruits which vary in all ways. Given to me by a Russian farmer." (Meyer.)

**23934. CUCURBITA PEPO L.****Squash.**

From Pangshan, Chihli, China. "(No. 990a, November, 1907.) A large turban-shaped gourd, one part of which is orange-yellow colored while the other part is green with orange stripes. Quite ornamental." (Meyer.)

**23935. CUCUMIS SATIVUS L.****Cucumber.**

From Peking, Chihli, China. "(No. 991a, Mar. 25, 1908.) A Chinese cucumber called *Huang kua*; grown on trellises in the open ground." (Meyer.)

**23936. CUCUMIS MELO L.****Muskmelon.**

From Peking, Chihli, China. "(No. 992a, Mar. 25, 1908.) A small muskmelon; grown on light sandy soil. Chinese name *Hsien kua*." (Meyer.)

**23937. LUFFA CYLINDRICA (L.) Roemer.**

From Peking, Chihli, China. "(No. 993a, Mar. 25, 1908.) A dishrag gourd, the tender young fruits of which are eaten by the Chinese. Chinese name *Shi kua*." (Meyer.)

**23938. BENINCASA CERIFERA Savi.****Gourd.**

From Peking, Chihli, China. "(No. 994a, Mar. 25, 1908.) A gourd eaten by the Chinese. Chinese name *Tung kua*." (Meyer.)

**23939. ACTINOSTEMMA sp.**

From Peking, Chihli, China. "(No. 995a, Mar. 25, 1908.) A very rare cucurbitaceous plant, called in Chinese *Ly kua tze*." (Meyer.)

**23940 to 23945. LAGENARIA VULGARIS Ser.****Gourd.**

From Peking, Chihli, China. (Mar. 25, 1908.)

**23940.** "(No. 996a.) Chinese name *Yang hu lu*."

**23941.** "(No. 997a.) Chinese name *Yoh hu lu*."

**23942.** "(No. 998a.) Chinese name *Ko ko hu lu*."

**23943.** "(No. 999a.) Chinese name *Shoo yar yow hu lu*."

**23944.** "(No. 1000a.) Chinese name *Ta yar yow hu lu*."

**23945.** "(No. 1001a.) Chinese name *Ta paww hu lu*."

"The above *Lagenarias* are grown by the Chinese on trellises in their gardens; the very young fruits are often eaten stewed as a vegetable; the old, well-ripened gourds are used as bottles for oil, wine, and water, or when cut in two lengthwise are used for water dippers and for pans in which to keep things. The large round gourds serve the country Chinese for the same purpose as our drawers in cupboards do, viz, to keep things stored in; and lastly these *Lagenaria* seeds are often boiled with salt and sold as an appetizing delicatessen." (Meyer.)



## 23930 to 24113—Continued.

## 23946 to 23952. CUCURBITA PEPO L.

From Peking, Chihli, China. (Mar. 25, 1908.)

23946. "(No. 1002a.) Chinese name *San kua*."

23947. "(No. 1003a.) Chinese name *Nan kua*."

23948. "(No. 1004a.) Chinese name *Tau nan kua*."

23949. "(No. 1005a.) Chinese name *Tchoo tze kua*."

23950. "(No. 1006a.) Chinese name *Ba loeng woo kua*."

23951. "(No. 1007a.) Chinese name *Shi bin woo kua*."

23952. "(No. 1008a.) Chinese name *Hsi hu kua*."

"The above numbers include pumpkins and squashes and are used by the Chinese as vegetables, either stewed or boiled. The seeds too are roasted or boiled in salted water and then dried. The plants are mostly grown between corn, sorghum, and other tall-growing crops, sometimes even on rather alkaline soil." (*Meyer*.)

## 23953 to 23956. DOLICHOS LABLAB L.

## Bonavist bean.

From Peking, Chihli, China. (Mar. 25, 1908.)

23953. "(No. 1009a.) Chinese name *Lung tsao pian doh*. Black colored."

23954. "(No. 1010a.) Chinese name *Tze pian doh*. Black colored."

23955. "(No. 1011a.) Chinese name *Ching pian doh*. Brown colored."

23956. "(No. 1012a.) Chinese name *Pai pian doh*. White colored."

"All the above hyacinth [bonavist] beans are grown by the Chinese against sorghum-stem fences and between sorghum and corn crops, in which case they use the stems of these last-named plants for their support. The pods when green and juicy are sliced and eaten boiled as a vegetable; the leaves when dry are boiled in soups and considered a rather expensive food." (*Meyer*.)

## 23957. PHASEOLUS COCCINEUS L.

## Scarlet runner bean.

From Peking, Chihli, China. "(No. 1013a, Mar. 25, 1908.) The scarlet runner is grown sparsely in northern China against fences of sorghum stems and on poles, apparently for ornament, though the fresh pods are sliced and eaten boiled and the dry beans are sometimes cooked in soups. Chinese name *Hua pian doh*." (*Meyer*.)

## 23958. PHASEOLUS VULGARIS L.

From Peking, Chihli, China. "(No. 1014a, Mar. 25, 1908.) A form of garden bean, loving a rich garden soil, but being able to stand much alkali. The young pods are eaten boiled as a vegetable; the dry beans are cooked in soups. Chinese name *Yueng pian doh*." (*Meyer*.)

## 23959. VIGNA SESQUIPEDALIS (L.) W. F. Wight.

From Peking, Chihli, China. "(No. 1015a, Mar. 25, 1908.) A long string bean, the pods of which are eaten boiled as a vegetable. Has to be grown on stakes and is remarkably productive. Chinese name *Chiang doh*." (*Meyer*.)

## 23960. ABRUS PRAECATORIUS L.

From Peking, Chihli, China. "(No. 1016a, Mar. 25, 1908.) The paternoster bean; grown by the Chinese for medicine and for ornament, namely, they manufacture beads and bracelets of the seeds by stringing them on strong threads. Chinese name *Yae ho hua*." (*Meyer*.)

## 23930 to 24113—Continued.

23961. *RICINUS COMMUNIS* L.

Castor oil bean.

From Peking, Chihli, China. "(No. 1017a, Mar. 25, 1908.) The castor oil bean which is grown all over China, the oil being used for culinary purposes, viz, all the doughnuts and small cakes which the Chinese eat for breakfast are fried in it, and it seems to lose its peculiar medicinal properties after having been heated. Chinese name *Ta ma tze*." (Meyer.)

23962. *COIX LACRYMA-JOBI* L.

Job's tears.

From Peking, Chihli, China. "(No. 1018a, Mar. 25, 1908.) The well-known Job's tears, seeds of which are used for ornaments. Chinese name *Tsao choo tze*." (Meyer.)

23963 and 23964. *BRASSICA PEKINENSIS* (Lour.) Skeels. (*SINAPIS PEKINENSIS* Lour.) (*BRASSICA PETSAL* Bailey.) Chinese cabbage.

From Peking, Chihli, China. (Mar. 25, 1908.)

23963. "(No. 1019a.) Chinese name *Boo to pai tsai*."

23964. "(No. 1020a.) Chinese name *Shoo pai tsai*."

"Sow the cabbages at the end of July or early in August, transplant in early September in well-worked and heavily manured soil. Do not let them suffer from lack of water. Harvest after the first heavy frost and store away in a cool, frostproof cellar. Will do especially well in the irrigated sections of the United States." (Meyer.)

23965. *BRASSICA JUNCEA* (L.) Cass.

Chinese mustard.

From Peking, Chihli, China. "(No. 1021a, Mar. 25, 1908.) Grown as an early vegetable for greens, being sown very early in spring in a well-worked, light, warm soil. Pulled up and sold in bunches; also picked for private use. Chinese name *Yi tsai*." (Meyer.)

23966. *BRASSICA RAPA* L.

Turnip.

From Peking, Chihli, China. "(No. 1022a, Mar. 25, 1908.) Probably a long, white spring turnip. As such, grow it in light, well-worked soil. Sow in rows as early as possible in a protected place. The turnips stewed with milk form a good dish in the early summer. Chinese name *Pien lang*." (Meyer.)

23967. *RAPHANUS SATIVUS* L.

Radish.

From Peking, Chihli, China. "(No. 1023a, Mar. 25, 1908.) A red variety. Sow in hills, distance  $1\frac{1}{2}$  feet apart, in early August, on well-drained soil. Harvest before heavy frost. Store in cellar for winter use. Eaten stewed like turnips. Chinese name *Tung lung hong lou ba*." (Meyer.)

23968 and 23969. *RAPHANUS SATIVUS* L.

Radish.

From Peking, Chihli, China. (Mar. 25, 1908.)

23968. "(No. 1024a.) Chinese name *Tsui lou poo* (green radish-turnip)."

23969. "(No. 1025a.) Chinese name *Hong swee lou poo* (red radish-turnip)."

"These peculiar roots are largely eaten by the Chinese as appetizers and really are very pleasing to the taste and promote digestion. Sow in early August in well-drained soil, in hills  $1\frac{1}{2}$  feet apart in each direction. Harvest before a heavy frost and store in cool cellars for winter use. Always eaten raw and sliced lengthwise." (Meyer.)

## 23930 to 24113—Continued.

23970. *APIUM GRAVEOLENS* L.

## Celery.

From Peking, Chihli, China. "(No. 1026a, Mar. 25, 1908.) A Chinese variety of celery, much used in soups and in various other dishes, although quite strong. May contain more of the active alkaloids than our own varieties and be of use in celery-salt manufacture. Chinese name *Hu diên mae hua*." (Meyer.)

23971. *DAUCUS CAROTA* L.

## Carrot.

From Peking, Chihli, China. "(No. 1027a, Mar. 25, 1908.) A Chinese carrot. Sow in rows in somewhat sandy though rich soil. Do not let them have any lack of water. Chinese name *Hu lou poo*." (Meyer.)

23972. *CORIANDRUM SATIVUM* L.

From Peking, Chihli, China. "(No. 1028a, Mar. 25, 1908.) A well-known herb, the young leaves of which are used by the Chinese to flavor their soups with. The seeds are also used in various kinds of candy. Chinese name *Hsien tsai*." (Meyer.)

23973. *LACTUCA SATIVA* L.

## Lettuce.

From Peking, Chihli, China. "(No. 1029a, Mar. 25, 1908.) A Chinese lettuce which does not form a head, but the stems get to be quite fleshy and are stewed like asparagus. Quite tasty. Chinese name *Sun tsai*." (Meyer.)

23974. *BETA VULGARIS* L.

## Beet.

From Peking, Chihli, China. "(No. 1030a, Mar. 25, 1908.) Probably a red beet root, the young leaves of which are eaten stewed and also the roots when about full grown. This is inferior to our own varieties. Chinese name *Hong pai tsai*." (Meyer.)

23975. *CAPSICUM ANNUUM* L.

## Pepper.

From Peking, Chihli, China. "(No. 1031a, Mar. 25, 1908.) A Chihli pepper grown by the Chinese partly for ornament and partly for condiments. Chinese name *Shi tze cheow*." (Meyer.)

23976. *SOLANUM MELONGENA* L.

## Eggplant.

From Peking, Chihli, China. "(No. 1032a, Mar. 25, 1908.) An eggplant which may turn out to be more ornamental than useful. Chinese name *Chieng yen chi*." (Meyer.)

23977 to 23983. *CELOSIA ARGENTEA* L.

From Peking, Chihli, China. (Mar. 25, 1908.)

23977. "(No. 1033a.) Chinese name *Hong gee kuan hua*."

23978. "(No. 1034a.) Chinese name *Huang gee kuan hua*."

23979. "(No. 1035a.) Chinese name *Huang shoo gee kuan hua*."

23980. "(No. 1036a.) Chinese name *Tze shoo gee kuan hua*."

23981. "(No. 1037a.) Chinese name *Hong shoo gee kuan hua*."

23982. "(No. 1038a.) Chinese name *Pai shoo gee kuan hua*."

23983. "(No. 1039a.) Chinese name *Kuan shang chiar kuan*."

"The above forms are grown by the Chinese as ornamental garden plants." (Meyer.)

23984 to 23988. *AMARANTHUS* spp.

From Peking, Chihli, China. (Mar. 25, 1908.)

23984. "(No. 1040a.) Chinese name *Lo lie show*."

23985. "(No. 1041a.) Chinese name *Hong doo chuang hua*."

**23930 to 24113—Continued.****23984 to 23988—Continued.**

**23986.** "(No. 1042a.) Chinese name *Sen doo chuang hua*."

**23987.** "(No. 1043a.) Chinese name *Tze doo chuang hua*."

**23988.** "(No. 1044a.) Chinese name *Pai doo chuang hua*."

"The above plants are grown by the Chinese in their gardens as summer annuals." (*Meyer*.)

**23989. PAPAVER SOMNIFERUM L.****Poppy.**

From Peking, Chihli, China. "(No. 1045a, Mar. 25, 1908.) A poppy grown for its ornamental flowers in gardens in North China. Chinese name *Hong yēn swee hua*." (*Meyer*.)

**23990 to 23992. PAPAVER RHOEAS L.****Poppy.**

From Peking, Chihli, China. (Mar. 25, 1908.)

**23990.** "(No. 1046a.) Chinese name *Hong yī mie ren hua*."

**23991.** "(No. 1047a.) Chinese name *Pai yī mie ren hua*."

**23992.** "(No. 1048a.) Chinese name *Ten yī mie ren hua*."

"These flowering poppies are grown by the Chinese as ornamental garden annuals. Sow early." (*Meyer*.)

**23993 and 23994. CASSIA OCCIDENTALIS L.**

From Peking, Chihli, China. (Mar. 25, 1908.)

**23993.** "(No. 1049a.) Chinese name *Huang whee tze*."

**23994.** "(No. 1050a.) Chinese name *Sing huang whee tze*."

"The above are grown by the Chinese as ornamental garden plants." (*Meyer*.)

**23995 to 23999. POLYGONUM ORIENTALE L.****Prince's-feather.**

From Peking, Chihli, China. (Mar. 25, 1908.)

**23995.** "(No. 1051a.) Chinese name *Swee ping hua*."

**23996.** "(No. 1052a.) Chinese name *Pai mow dan*."

**23997.** "(No. 1053a.) Chinese name *Hong mow dan*."

**23998.** "(No. 1054a.) Chinese name *Tze mow dan*."

**23999.** "(No. 1055a.) Chinese name *Ten mow dan*."

"All the foregoing varieties of prince's-feather are cultivated by the Chinese of North China in their gardens as ornamental plants. The colors of the bracts range from pure white to dark red. Plants are able to stand alkali very well and may be of use in the Western States." (*Meyer*.)

**24000. HIBISCUS sp.**

From Peking, Chihli, China. "(No. 1056a, Mar. 25, 1908.) An ornamental plant grown in gardens in North China. Chinese name *Huang tchu kwi hua*." (*Meyer*.)

**24001 and 24002. DATURA sp.**

From Peking, Chihli, China. (Mar. 25, 1908.)

**24001.** "(No. 1057a.) Chinese name *Tze la ba hua*."

**24002.** "(No. 1058a.) Chinese name *Ta pai la ba hua*."

"Both of these are apparently Solanaceæ and are grown by the Chinese of North China as ornamental garden plants. They may prove to be novelties." (*Meyer*.)

## 23930 to 24113—Continued.

24003 to 24008. *MALVA* sp.

From Peking, Chihli, China. (Mar. 25, 1908.)

24003. "(No. 1059a.) Chinese name *Hong shoo show gee*."  
 24004. "(No. 1060a.) Chinese name *Ten shoo show gee*."  
 24005. "(No. 1061a.) Chinese name *Pai shi gee hai tang*."  
 24006. "(No. 1062a.) Chinese name *Lang shi gee hai tang*."  
 24007. "(No. 1063a.) Chinese name *Hong shi gee hai tang*."  
 24008. "(No. 1064a.) Chinese name *Pai shi gee hai tang*."

"The above are grown by the Chinese of North China as ornamental garden plants." (Meyer.)

24009 to 24016. *ALTHAEA ROSEA* (L.) Cav.

**Hollyhock.**

From Peking, Chihli, China. (Mar. 25, 1908.)

24009. "(No. 1065a.) Chinese name *Huang ta show gee*."  
 24010. "(No. 1066a.) Chinese name *Lang ta show gee*."  
 24011. "(No. 1067a.) Chinese name *He ta show gee*."  
 24012. "(No. 1068a.) Chinese name *Sen ta show gee*."  
 24013. "(No. 1069a.) Chinese name *Pou ta show gee*."  
 24014. "(No. 1070a.) Chinese name *Tze ta show gee*."  
 24015. "(No. 1071a.) Chinese name *Hong ta show gee*."  
 24016. "(No. 1072a.) Chinese name *Moo ho ta show gee*."

"The hollyhocks are favorite garden plants with the Chinese of North China, thriving well in the semiarid climate of northeast Asia. Among these preceding numbers there is one said to be black, No. 1067a (S. P. I. No. 24011), but in all probability the seeds will appear to be very much mixed, as with nearly all seeds to be had in China. There may be hardier and more disease-resistant varieties than those we possess at present among this lot." (Meyer.)

24017 to 24019. *DATURA* sp.

From Peking, Chihli, China. (Mar. 25, 1908.)

24017. "(No. 1073a.) Chinese name *Hong ba hsien hua*."  
 24018. "(No. 1074a.) Chinese name *Pai ba hsien hua*."  
 24019. "(No. 1075a.) Chinese name *Lang ba hsien hua*."

"The above are grown as ornamental plants in North China." (Meyer.)

24020 to 24029. *IPOMOEA PURPUREA* (L.) Roth.

From Peking, Chihli, China. (Mar. 25, 1908.)

24020. "(No. 1076a.) Chinese name *Hong la ba hua*."  
 24021. "(No. 1077a.) Chinese name *Huang la ba hua*."  
 24022. "(No. 1078a.) Chinese name *Tze la ba hua*."  
 24023. "(No. 1079a.) Chinese name *Pai la ba hua*."  
 24024. "(No. 1080a.) Chinese name *Sen la ba hua*."  
 24025. "(No. 1081a.) Chinese name *Lang la ba hua*."  
 24026. "(No. 1082a.) Chinese name *Hua la ba hua*."  
 24027. "(No. 1083a.) Chinese name *Luo ching la ba hua*."  
 24028. "(No. 1084a.) Chinese name *Noo ho la ba hua*."  
 24029. "(No. 1085a.) Chinese name *Shoo hong hua*."



## 23930 to 24113—Continued.

## 24020 to 24029—Continued.

"The above are in all probability different varieties of *Ipomoea purpurea*, grown by the Chinese in North China as ornamental garden climbers against fences and walls. There are said to be all kinds of colors among these, but the seeds are probably very much mixed." (Meyer.)

24030. *IPOMOEA* sp.

From Peking, Chihli, China. "(No. 1086a, Mar. 25, 1908.) A species of morning-glory grown in gardens in North China. Chinese name *Lang chu ling tze*." (Meyer.)

24031. *IPOMOEA* sp.

From Peking, Chihli, China. "(No. 1087a, Mar. 25, 1908.) Chinese name *Hu lu pian doh*, which name may be fictitious, as *pian doh* is the name for *Dolichos lablab*. This *Ipomoea* is grown like the rest of the morning-glories as an ornamental garden vine." (Meyer.)

24032. *IRIS ENSATA* Thunb. (?)

From Peking, Chihli, China. "(No. 1088a, Mar. 25, 1908.) Apparently an *Iris*, grown as an ornamental plant in gardens in North China. Chinese name *Shir yong chieng*." (Meyer.)

- 24033 to 24044. *MIRABILIS JALAPA* L.

Four-o'clock.

From Peking, Chihli, China. (Mar. 25, 1908.)

24033. "(No. 1089a.) Chinese name *Luaun hong mu lee*."

24034. "(No. 1090a.) Chinese name *Luaun huang mu lee*."

24035. "(No. 1091a.) Chinese name *Luaun pai mu lee*."

24036. "(No. 1092a.) Chinese name *Luaun sen mu lee*."

24037. "(No. 1093a.) Chinese name *Luaun tze mu lee*."

24038. "(No. 1094a.) Chinese name *Luaun hua mu lee*."

24039. "(No. 1095a.) Chinese name *Huang mu lee hua*."

24040. "(No. 1096a.) Chinese name *Lang mu lee hua*."

24041. "(No. 1097a.) Chinese name *Pai mu lee hua*."

24042. "(No. 1098a.) Chinese name *Sen mu lee hua*."

24043. "(No. 1099a.) Chinese name *Hong mu lee hua*."

24044. "(No. 1100a.) Chinese name *Tchung tze hu mu lee hua*."

"These twelve preceding numbers are varieties of the ordinary four-o'clock, which is a great favorite with the Chinese of North China. They are able to stand considerable alkali in the soil." (Meyer.)

24045 to 24058. *IMPATIENS BALSAMINA* L.

Balsam.

From Peking, Chihli, China. (Mar. 25, 1908.)

24045. "(No. 1101a.) Chinese name *Lang ting tung*."

24046. "(No. 1102a.) Chinese name *Sen ting to tung*."

24047. "(No. 1103a.) Chinese name *Hong ting to tung*."

24048. "(No. 1104a.) Chinese name *Tze ting to tung*."

24049. "(No. 1105a.) Chinese name *Pai ting to tung hua*."

24050. "(No. 1106a.) Chinese name *Suo ching ting to tung hua*."

24051. "(No. 1107a.) Chinese name *Hua pien ting to tung hua*."

24052. "(No. 1108a.) Chinese name *Moo ho ting to tung hua*."

24053. "(No. 1109a.) Chinese name *Hong lung tsao tung hsien hua*."



## 23930 to 24113—Continued.

## 24045 to 24058—Continued.

24054. "(No. 1110a.) Chinese name *Hua lung tsao tung hsien hua*."  
 24055. "(No. 1111a.) Chinese name *Tze lung tsao tung hsien hua*."  
 24056. "(No. 1112a.) Chinese name *Lang lung tsao tung hsien hua*."  
 24057. "(No. 1113a.) Chinese name *Pai lung tsao tung hsien hua*."  
 24058. "(No. 1114a.) Chinese name *Lang hua pien lung tsao tung hsien hua*."

"All the preceding numbers are apparently varieties of the ordinary balsam, which is much grown by the Chinese as an ornamental summer annual, mostly in boxes and earthen vessels. There are some fine varieties among them, and as a whole they may prove to be somewhat hardier than our own strains." (Meyer.)

## 24059 to 24062. (Undetermined.)

From Peking, Chihli, China. (Mar. 25, 1908.)

24059. "(No. 1115a.) Chinese name *Ta nai kong*."  
 24060. "(No. 1116a.) Chinese name *Pai nai kong*."  
 24061. "(No. 1117a.) Chinese name *Hong sho yo*."  
 24062. "(No. 1118a.) Chinese name *Sun kuan moo*."

"These four numbers represent apparently a *Salvia* or some closely allied genus of *Menthaceæ*; they are grown by the Chinese as ornamental garden plants." (Meyer.)

24063 to 24066. *DIANTHUS CHINENSIS* L.

Chinese pink.

From Peking, Chihli, China. (Mar. 25, 1908.)

24063. "(No. 1119a.) Chinese name *Hong shir chow*."  
 24064. "(No. 1120a.) Chinese name *Ten shir chow*."  
 24065. "(No. 1121a.) Chinese name *Tze shir chow*."  
 24066. "(No. 1122a.) Chinese name *Pai shir chow*."

"The above are apparently different varieties of Chinese pinks, which are favorite plants in Chinese gardens." (Meyer.)

## 24067 to 24069. (Undetermined.)

From Peking, Chihli, China. (Mar. 25, 1908.)

24067. "(No. 1123a.) Chinese name *Hong wan sho chii hua*."  
 24068. "(No. 1124a.) Chinese name *Pai wan sho chii hua*."  
 24069. "(No. 1125a.) Chinese name *Huang wan sho chii hua*."

"Grown as an ornamental garden plant in North China." (Meyer.)

"These seeds belong to a species of *Asteraceæ*." (H. C. Skeels.)

24070. *HELIANTHUS* sp.

From Peking, Chihli, China. "(No. 1126a, Mar. 25, 1908.) Apparently a *Helianthus* or a closely allied composite. Grown as an ornamental garden plant in North China. Chinese name *Hong mi lou sung*." (Meyer.)

24071 to 24073. *HELIANTHUS ANNUUS* L.

From Peking, Chihli, China. (Mar. 25, 1908.)

24071. "(No. 1127a.) Chinese name *Huang kwi hua*."  
 24072. "(No. 1128a.) Chinese name *Cheoo lien tung*."

## 23930 to 24113—Continued.

## 24071 to 24073—Continued.

24073. "(No. 1129a.) Chinese name *Tsau yang hua*."

"These sunflower varieties are cultivated in China for their seeds, which are eaten as a delicatessen; for their leaves, which are fed to domestic animals; and for their stalks, which are used for fuel." (Meyer.)

24074 and 24075. *CRYSANTHEMUM CORONARIUM* L.

From Peking, Chihli, China. (Mar. 25, 1908.)

24074. "(No. 1130a.) Chinese name *Hoow tze kang*."

24075. "(No. 1131a.) Chinese name *Yae lië hsien*."

"The above are grown by the Chinese in North China as ornamental garden plants." (Meyer.)

24076 to 24078. *CRASSINA ELEGANS* (Jacq.) Kuntze.

**Zinnia.**

From Peking, Chihli, China. (Mar. 25, 1908.)

24076. "(No. 1132a.) Chinese name *Hong chung mae hua*."

24077. "(No. 1133a.) Chinese name *Huang chung ye mae hua*."

24078. "(No. 1134a.) Chinese name *Pai mu sië mae hua*."

"The above are apparently varieties of *Crassina elegans*, which is grown sparsely as a garden plant in North China." (Meyer.)

24079 to 24081. *CALENDULA OFFICINALIS* L.

**Marigold.**

From Peking, Chihli, China. (Mar. 25, 1908.)

24079. "(No. 1135a.) Chinese name *Ten hsi fan lien*."

24080. "(No. 1136a.) Chinese name *Hong hsi fan lien*."

24081. "(No. 1137a.) Chinese name *Chung tsaiën tze hua*."

"The above are varieties of the ordinary marigold, grown as an ornamental garden plant in North China." (Meyer.)

24082 to 24085. *TAGETES ERECTA* L.

From Peking, Chihli, China. (Mar. 25, 1908.)

24082. "(No. 1138a.) Chinese name *Hung chiü hua*."

24083. "(No. 1139a.) Chinese name *Hong chiü hua*."

24084. "(No. 1140a.) Chinese name *Hong fu jung hua*."

24085. "(No. 1141a.) Chinese name *Huang fu jung hua*."

"The above are apparently varieties of *Tagetes erecta* or a form closely allied to it. They are grown as ornamental garden annuals by the Chinese of North China." (Meyer.)

24086. *LACTUCA SATIVA* L. (?)

From Peking, Chihli, China. "(No. 1142a, Mar. 25, 1908.) A composite. Grown as an ornamental garden plant in North China. Chinese name *Hong kwei hua*." (Meyer.)

24087 to 24109. *CALLISTEMMA CHINENSIS* (L.) Skeels. (*ASTER CHINENSIS* L.) (*CALLISTEPHUS CHINENSIS* Nees.)

**China aster.**

From Peking, Chihli, China. (Mar. 25, 1908.)

24087. "(No. 1143a.) Chinese name *Huang Chiang hsi la hua*."

24088. "(No. 1144a.) Chinese name *Lang Chiang hsi la hua*."

24089. "(No. 1145a.) Chinese name *Hwei Chiang hsi la hua*."

24090. "(No. 1146a.) Chinese name *Hua Chiang hsi la hua*."

## 23930 to 24113—Continued.

## 24087 to 24109—Continued.

24091. "(No. 1147a.) Chinese name *Tze Chiang hsi la hua.*"
24092. "(No. 1148a.) Chinese name *Nan hong Chiang hsi la hua.*"
24093. "(No. 1149a.) Chinese name *Moo ho Jung ichu Chiang hsi la hua.*"
24094. "(No. 1150a.) Chinese name *Hua yung tchu Chiang hsi la.*"
24095. "(No. 1151a.) Chinese name *Fen yung tchu Chiang hsi la.*"
24096. "(No. 1152a.) Chinese name *Tze yung tchu Chiang hsi la.*"
24097. "(No. 1153a.) Chinese name *Hong yung tchu Chiang hsi la.*"
24098. "(No. 1154a.) Chinese name *Pai yung tchu Chiang hsi la.*"
24099. "(No. 1155a.) Chinese name *Pai hua pien Chiang hsi la.*"
24100. "(No. 1156a.) Chinese name *Tze hua pien Chiang hsi la.*"
24101. "(No. 1157a.) Chinese name *Chiang hsi chii.*"
24102. "(No. 1158a.) Chinese name *Pai kwei chow chii.*"
24103. "(No. 1159a.) Chinese name *Hong kwei chow chii.*"
24104. "(No. 1160a.) Chinese name *Huang kwei chow chii.*"
24105. "(No. 1161a.) Chinese name *Lang kwei chow chii.*"
24106. "(No. 1162a.) Chinese name *Fen kwei chow chii.*"
24107. "(No. 1163a.) Chinese name *Tze kwei chow chii.*"
24108. "(No. 1164a.) Chinese name *Hua kwei chow chii.*"
24109. "(No. 1165a.) Chinese name *Moo ho kwei chow chii.*"

"The above are apparently various forms and varieties of our ordinary garden aster, which is held in high esteem by the Chinese as a garden flower. There are said to be yellow-flowered varieties among this collection, but in general the seeds will be found to be very much mixed.

"As the garden aster is a native of northern Asia there may be found some types among this lot that may be of value for breeding purposes or for rather uncongenial climates." (*Meyer.*)

## 24110 to 24112. PANICUM MILIACEUM L.

Proso millet.

From northern Korea. (September, 1906.)

24110. "(No. 1168a.) A white-seeded drooping millet."
24111. "(No. 1169a.) A red-seeded drooping millet."
24112. "(No. 1170a.) A black-seeded drooping millet."

"Apparently rare forms of millet grown by the Koreans for food. These few seeds were picked by me, while passing a few fields near the upper regions of the Tumen River and I never came across them again later on." (*Meyer.*)

## 24113. PANICUM sp.

From northern Korea. "(No. 1171a, September, 1906.) A millet grown on very low lying lands; used by the poor peasants, when ground up, as a gruel. Try it on low river bottoms as a late fodder crop; it stools out enormously on rich land." (*Meyer.*)

**24114. ARACHIS HYPOGEA L.****Peanut.**

From Marseille, France. Procured by Hon. Robert P. Skinner, American consul-general, at the request of Mr. W. R. Beattie and Mr. C. S. Scofield. Received October 27, 1908.

*Gambia.* "Pods medium size to small, light in color, closely netted, indentations quite shallow, so that the exterior surface of pods is comparatively smooth; generally two, sometimes three, and occasionally one pea in a pod; shells thin and quite firm and strong; peas medium size, one-third larger than Spanish, crowded together in pod and almost completely filling cavity, color of pea rather dark brown, outer skin adhering very tightly; flesh of pea clear white color, germ considerably extended at end of pea and easily removed.

"This pea will be exceptionally valuable for use in the manufacture of candy and other products where shelled nuts are required." (*W. R. Beattie.*)

"These peanuts were procured for testing in this country for their oil-yielding properties in comparison with the American varieties." (*R. A. Young.*)

**24115 to 24121.**

From Amani, German East Africa. Presented by Dr. A. Zimmerman, Biologic Agricultural Institute, at the request of Mr. C. V. Piper. Received October 23, 1908.

"The following seeds of legumes being tested here for their value as green fertilizing plants." (*Zimmerman.*)

**24115.** CROTALARIA sp.

**24116.** CROTALARIA sp.

**24117.** CROTALARIA sp.

**24118.** CROTALARIA HILDEBRANDTHI Vatke.

**24119.** CROTALARIA STRIATA Schrank.

**24120.** DOLICHOS (?).

**24121.** INDIGOFERA (?).

**24122 to 24127. ANDROPOGON SORGHUM (L.) Brot.****Kafir.**

From Greytown, Natal, South Africa. Procured from Mr. T. Thresh, "Thorn-ton," Greytown, Natal, by Mr. E. Fitzgerald, Native Affairs Department, Pietermaritzburg, Natal, presented by Mr. A. E. LeRoy, Adams, M. S., Natal. Received October 6, 1908.

Seed of the following. Descriptive notes by Mr. Carleton R. Ball; native names by Mr. LeRoy:

**24122.** *Mehlo ka kuka.* Blackhull kafir, apparently typical. Small head, 7 inches long; glumes, short, shiny black; seeds medium, white.

**24123.** *Sibuyana.* Blackhull kafir type; very compact glumes and seeds slightly larger than normal, the seeds are white with distinct brownish tinge, especially at tip.

**24124.** *Simuktywana.* Blackhull kafir type; head compact, very similar to preceding (S. P. I. No. 24123), but seeds more deeply tinged with brown.

**24125.** *Ngabani omhlope.* Kafir type of head, but seeds large; whitish or mostly pearly glumes two-thirds as long as seeds, these are greenish or, in the case of those at the base of the head, reddish brown.

**24122 to 24127—Continued.**

**24126.** *Nyabani abomru*. Red katir, apparently typical head, shorter and more slender than normal for the United States.

**24127.** *U. Jiha*. "The natives do not like the taste of this, but raise it because the birds do not trouble it. Birds trouble all other kinds very greatly." (*LeRoy*.)

Related to *Red katir*, but with very large seeds; glumes about two-thirds as long as seeds.

**24128 to 24130. ANDROPOGON SORGHUM (L.) Brot.****Durra.**

From Egypt. Presented by Mr. Hubert S. Smiley, Gallowhill, Paisley, Scotland. Received September 23, 1908.

Seed of the following. Descriptive notes by Mr. Carleton R. Ball; native names by Mr. Smiley:

**24128.** *Bab el Bugger*. Typical durra *Ahmar* or brown-seeded durra; glumes shiny black; large seeds, pale and shiny red.

**24129.** *Humashi*. "This is considered the best for bread making." (*Smiley*.)

A form apparently intermediate between durra *Ahmar* and durra *Beda* the white form; the seeds are pale brown, head is otherwise identical with durra *Ahmar*.

**24130.** *Heggeri*. Seeds white or brownish white; glumes shiny black and naked.

"These are typical Egyptian durras with very large and heavy ovate, extremely compact, pendant heads; the same or very similar varieties tested by me in the last few years always have immense stalks, 2 to 3 inches in diameter at the base, 8 to 13 feet high, and having from 20 to more than 30 leaves; they are mostly very late and will therefore not mature in much of our dry plain region; they are not at all adapted to the more humid region, because the compact heads become moldy in wet weather and badly injured by worms." (*Ball*.)

"This durra is sown as a rain crop in Berber, Athara, Zeidab, and Shendi districts. Directly the rains are over, the natives go out to the borders of the desert and sow the grain on the poor, rocky soil. They then leave it, as it requires no cultivation, and it receives no more water than that left in the soil by the rains. A good crop would be about 6 ardebs per feddan. These sorghums are the principal foodstuffs of the natives." (*Smiley*.)

**24131. GARCINIA sp.**

From Palawan, Philippine Islands. Procured by Mr. William S. Lyon, Gardens of Nagtajan, Manila, P. I. Received November 4, 1908.

"This species is from sea level, extending from coast inland 3 to 5 kilometers only; is generally 14 to 15 meters, although sometimes larger, wide spreading and seemingly a robust grower. Fruit edible by natives, monkeys, and parrots, but I balked at much of it." (*Lyon*.)

**24132. BENZOIN sp.(?)**

From Mokanshan, China. Presented by Rev. J. M. W. Farnham, Shanghai, China. Received November 4, 1908.

"This shrub grows 8 or 10 feet tall. In September (here) the branches are covered thick with beautiful, very bright red berries; a bush here and there among the green shrubbery around a lawn would be pretty. Sow in the autumn, I suppose." (*Farnham*.)



**24134 and 24135.**

From Florida. Grown by Mr. P. J. Wester at the Subtropical Garden, Miami, Fla. Numbered for convenience in recording distribution November 9, 1908.

**24134. CHRYSOPHYLLUM MONOPYRENUM Swartz.**

"This belongs to the Sapotaceæ and is a native of south Florida, where it grows to a small tree, attaining sometimes a height of about 18 feet. The leaves are leathery and dark green, shining above and satiny beneath, something similar to the star apple, with which many are familiar, only this is darker and more lustrous than that species, making it more ornamental. The fruit is of no value." (*Wester.*)

**24135. THESPESIA POPULNEA (L.) Soland.**

"This is usually considered a native of the Old World, which has long been naturalized to the West Indies and has probably drifted with the Gulf Stream to the shores of Florida, where it grows wild on the Keys and occasionally on the mainland. This plant will attain a height here of about 20 feet or more and about the same spread under favorable conditions." (*Wester.*)

"These plants will probably be of value in southern California as ornamentals and shade trees. Both stand slight frosts." (*Wester.*)

**24136. CRINODENDRON PATAGUA Mol.**

From Jamaica Plain, Mass. Presented by the Arnold Arboretum. Received October 26, 1908.

"A tree attaining a height of 30 feet; pyramidal shaped; pretty foliage; very elegant, lily-shaped, drooping, red flowers." (*Dr. F. Franceschi.*)

**24137 and 24138. ZEA MAYS L.****Corn.**

From Ciudad Juarez, Chihuahua, Mexico. Presented by Mr. Elmer Stearns, botanist, School of Agriculture. Received November 2, 1908.

Seed of the following:

**24137.** "Blue corn, is regular Aztec corn, very much used for tortillas." (*Stearns.*)

**24138.** "White corn, used same as above (S. P. I. No. 24137)." (*Stearns.*)

**24140 to 24145.**

Collected near Simla, India, in the Himalayan foothills. Presented by Mr. Evarard Cotes, Greenwood Court, Simla, India, through Mr. Frank N. Meyer. Received November 10, 1908.

Seeds of the following. Descriptive notes by Mr. Frank N. Meyer:

**24140. PRUNUS ARMENIACA L.**

**Wild apricot.**

Resembles the cultivated ones very much.

**24141 to 24144. AMYGDALUS PERSICA L.**

**Peach.**

**24141.** Probably an improved cultivated form.

**24142.** Very small pits, probably the genuine wild type.

**24143.** Small heart-shaped pits.

**24144.** The pits seem to resemble those of the *Chinese Honey* peach.

**24145. PYRUS sp.**

**Pear.**

A wild variety.



**24146. ASPARAGUS FILICINUS GIRALDII C. H. Wright.**

From Florence, Italy. Presented by Mr. Pasquale Bauarini, director, Orto Botanico del R. Istituto de Studi Superiori, via Romana 19. Received November 13, 1908.

"The form known in gardens as variety *Giraldii* is characterized by its large, broad, glossy, green phylloclades, usually borne in groups of five, and the solitary green flowers produced on very slender pedicels much longer than the phylloclades. The flower buds are brownish. This form has been collected in China in the Province of Shensi by Père Giraldi and in Szechwan and Hupeh by Dr. Aug. Henry.

"The species is a very variable one, and three varieties of it are enumerated in *Hooker's Flora of British India*, vi. 315, but the variety *Giraldii* has larger phylloclades than either of these." — *Charles Henry Wright, in The Gardeners Chronicle, August 15, 1908.*)

**24147. MALPIGHIA GUADALAJARENSIS (Wats.) Rose.**

From Ixtlandel Rio, Tepic, Mexico. Presented by Mr. Alfred Lonergan, through Mr. Frederic Chisolm. Received November 12, 1908.

"*Manzanita* or *Manzana del Cerro* (mountain apple). A low-growing tree, with small edible fruits of a taste resembling that of the apple. Grows wild on the steep, rough mountain sides in the eastern part of Tepic Territory and along the contiguous western border of the State of Jalisco, Mexico. The bark is used in tanning, and these fruits were imported to be planted at Brownsville, Tex., and Miami, Fla., to grow trees for this purpose." (*Frederic Chisolm.*)

**24148 to 24154. PUNICA GRANATUM L.****Pomegranate.**

From Sidon, Syria. Procured by Mr. G. Bie Ravndal, American consul-general, Beirut, Syria, from Mohamed Effendi Dada, gardener. Received November 13, 1908.

The following cuttings:

**24148.** *Sunciny.*

**24152.** *Mawardi.*

**24149.** *Malissah.*

**24153.** *Mukl el Bagel.*

**24150.** *Bint el Basha.*

**24154.** *Seify.*

**24151.** *Zaffani.*

"Perhaps the most popular varieties of sweet pomegranates grown here are the *Malissah* (S. P. I. No. 24149) and the *Bint el Basha* (S. P. I. No. 24150). The *Mawardi* (S. P. I. No. 24152) is also rather sweet, but considered slightly inferior to the varieties already mentioned, so also the *Mukl el Bagel* (S. P. I. No. 24153), the latter as well as the *Zaffani* (S. P. I. No. 24151) is somewhat tart, but not as acid as the *Sunciny* (S. P. I. No. 24148). The *Seify* (S. P. I. No. 24154) is well thought of in Syria. It is found in the Damascus region, as well as in the vicinity of Sidon.

"When seeds are planted the trees will be wild and require grafting, while cuttings will produce trees of the variety of the cuttings. Pomegranates out here thrive on shade and water. Rats are very fond of the fruit and climb the trees for meals, leaving the shells of the fruit hanging quite empty." (*Ravndal.*)

**24155 to 24165.**

From Szechwan Province, China. Secured by Mr. E. H. Wilson, of the Arnold Arboretum, Jamaica Plain, Mass., in cooperation with this Department. Received October and November, 1908.

**24155 to 24165—Continued.**

The following seeds:

**24155. RUBUS XANTHOCARPUS Bur. & Franch.**

"(No. 806.) Subshrub 6 inches to 1 foot high; flowers white; fruits yellow, of good size and flavor. Common in abandoned cultivated areas and stony places generally in the valley of the Min River from 6,000 to 10,000 feet; abundant around the town of Sungpan. Fruit ripe July to end of August, according to altitude." (*Wilson.*)

**24156. RIBES sp.**

"(No. 836.) Bush 6 to 12 feet; fruit green and very acid. The common gooseberry, abundantly employed as a hedge plant around Tchienlu; altitude 8,000 to 10,000 feet." (*Wilson.*)

**24157. TRITICUM AESTIVUM L.****Wheat.**

"(No. 845.) A white awnless wheat; 3 to 4 feet high; ripening in May. A common crop on the Yangtze banks, Szechwan Province." (*Wilson.*)

**24158. HORDEUM VULGARE L.****Barley.**

"(No. 846.) Ordinary six-rowed barley; 2 to 3 feet high; ripening in May; cultivated in the Yangtze Valley, Szechwan." (*Wilson.*)

**24159. HORDEUM sp.****Barley.**

"(No. 847.) A common six-rowed awned barley; ripe in May; abundantly cultivated on the banks of the Yangtze River, Szechwan." (*Wilson.*)

**24160. TRITICUM AESTIVUM L.****Wheat.**

"(No. 848.) A red wheat; 3 to 4 feet high; ripe in May. A common crop in the Yangtze Valley, Szechwan." (*Wilson.*)

**24161. HORDEUM VULGARE L.****Barley.**

"(No. 849.) A barley with purplish glumes, ripe in May; sparingly cultivated in the department of Weichon on the borders of the Chentu plain." (*Wilson.*)

**24162. BRASSICA JUNCEA (L.) Cass.****Chinese rape.**

"(No. 851.) Large Chinese rape, *Ta tsai yu*; 4 to 6 feet high; abundantly cultivated throughout the Yangtze Valley and the Chentu plain." (*Wilson.*)

**24163. BRASSICA sp.**

"(No. 852.) Small Chinese rape, *Hsas tsai yu*; 2 to 3 feet high; not quite such a common crop as No. 851 (S. P. I. No. 24162), but very generally cultivated in Szechwan. For special use of these and all the Szechwanese economic plants, see Consul-General Hosie's report on the Province of Szechwan." (*Wilson.*)

**24164. TRITICUM AESTIVUM L.****Wheat.**

"(No. 853.) A red awnless wheat; 3 feet high, with stout culms and ears; cultivated by the tribesfolk in western Szechwan and ripening in July or August, according to altitude. This wheat yields a very fine flour suitable for bread of all sorts." (*Wilson.*)

**24165. FRAGARIA MOSCHATA Duchesne.**

"(No. 908.) Wild strawberry. Fruit red and of very good flavor, size and shape variable, abundant around Tchienlu, 8,000 to 14,000 feet altitude." (*Wilson.*)

**24166 and 24167. MELALEUCA LEUCADENDRON L.**

Presented by Dr. John Gifford, Coconut Grove, Fla., through Mr. P. J. Wester, in charge, Subtropical Garden, Miami, Fla. Received November 17, 1908.

**24166.** Seed from Australia.

**24167.** Cuttings from a tree 18 feet tall growing near Coconut Grove, Fla.

"The cajuput-tree of India and Australia. Reaches a height of 80 feet. Can be grown on the edges of salt-water swamps where no Eucalyptus will survive; the tree is believed to be valuable for subduing malarial vapors like Eucalyptus. The lamellar bark is valuable for preserving fruit wrapped in it. The wood is hard, close grained, and almost imperishable underground. The leaves yield as much as 2 per cent of the well-known cajuput-oil, closely allied to that of Eucalyptus." (Extract from Von Mueller.)

**24168 and 24169. DAHLIA spp.****Dahlia.**

From Boca del Monte, Vera Cruz, Mexico. Presented by Dr. C. A. Purpus, of Zacuapan, Mexico, through Dr. J. N. Rose, associate curator, United States National Museum. Received November 19, 1908.

Seed of the following:

**24168.** (Rose No. 08,314.) Flower orange or yellow.

**24169.** (Rose No. 08,315.) Flower purple; 6,000 to 7,000 feet altitude.

**24170. MANGIFERA INDICA L.****Mango.**

From Province of Iloilo, Philippine Islands. Presented by Mr. Donald MacIntyre, Moanalua Gardens, Honolulu, Hawaii. Received November 20, 1908.

*Pico.* "A variety of merit. It comes true from seed and by that method has been reproduced in that country for generations." (MacIntyre.)

**24172. ANONA SQUAMOSA L.****Sugar-apple.**

From Antigua, British West Indies. Presented by Mr. A. S. Archer to Mr. P. J. Wester, in charge, Subtropical Garden, Miami, Fla., who forwarded a small quantity to the Department November 9, 1908.

Variety *purpurea*.

**24173 to 24192.**

From Soochow, Kiangsu, China. Presented by Rev. R. A. Haden, B. D. Received November 14, 1908.

The following seeds. Quoted descriptions by Mr. Haden; descriptions of varieties by Mr. H. T. Nielsen:

**24173 to 24175. VICIA FABA L.**

**Broad bean.**

"These are varieties of the same bean, grown from about latitude 30° to 33°. They are planted in the fall; it is said that planted in the spring they will not produce. Plant 2 to 3 seeds in a hill, space about 1 foot each way. Stalk bushy and about 3 feet to 4 feet 6 inches high; foliage and seed pods quite smooth; blooms light lilac, slightly fragrant; very prolific. Among earliest plants to bloom in spring and these green beans are the earliest to be had in the market. These are cooked in the same way as butter or lima beans; when dry they are also parched and eaten, and, too, they are soaked until tender, the skin peeled off, and cooked, they are very good thus prepared."

**24176. SOLANUM MELONGENA L.**

**Eggplant.**

"A white variety of eggplant, very fine. I send these because I have never seen the white eggplant at home."

**24173 to 24192—Continued.****24177 to 24179. PISUM ARVENSE L.****Field pea.**

**24177.** "Dark green English pea. Planted in fall with rye (October and November here). Stalk 4 to 5 feet high, branching. Flowers small, purple. Considered very prolific."

**24178.** "Large white English pea. Planted as above (S. P. I. No. 24177); flowers white; stalks larger and more prolific; good."

**24179.** "Small white. Remarks on the above (S. P. I. No. 24178) will apply to this."

**24180 to 24184. GLYCINE HISPIDA (Moench) Maxim.****Soy bean.**

**24180.** "Plant bunchy."

Looks like *Nuttall*, No. 17253, also like No. 19183.

**24181.** "Large yellow soy bean, early."

**24182.** "Green soy bean, early."

Seed looks like *Okute*, No. 19986.

**24183.** "Small light green variety, early."

Seed similar to *Haberlandt*, Nos. 17263 and 19985, but is a little smaller.

**24184.** "Large yellow variety, medium early."

Seed looks like *Haberlandt*, No. 17271.

**24185 to 24192. VIGNA UNGUICULATA (L.) Walp.****Cowpea.**

**24185.** "*Smallpox* cowpea. This is a variety of what in Louisiana used to be known as the cowpea; however, I never saw any there as fine as these. Rank grower; long vines, tangled and in masses; prolific fruiter."

Markings of seed like *Whippoorwill*, but shape different, having the most pronounced keel of any cowpea I have seen; shape somewhat like *Unknown*.

**24186.** "Large brown. Ranks in all respects with the above (S. P. I. No. 24185) except that growth is not so rank."

Shape similar to *Unknown*, but keel is longer and sharper and darker colored.

**24187.** "Small brown. Very prolific; splendid fodder pea."

Looks like an ordinary *Clay*, seed may be a trifle darker and smaller.

**24188.** "Large black-eyed spotted pea. I have not seen this growing; it was a find and is said to be very good."

Looks something like *Holstein*, but all the black except a few spots is around the hilum.

**24189.** "*Black*. Rank grower extensively cultivated; weevil very bad in this."

Looks like our ordinary *Black*.

**24190.** "*Black-Eye* cowpea, large; not as extensively cultivated as other varieties in this collection."

Looks just like our common *Black-Eye*.

**24191.** "*Black-Eye* cowpea, small; good."

Differs from our common *Black-Eye* only in having smaller seeds.

**24192.** "*Brown-Eye* cowpea, small; good."

Seed looks like our common *Brown-Eye*, but a little smaller; looks like *Brown-Eye*, No. 17855, from China.

**24193. ORYZA SATIVA L.****Rice.**

From Chevy Chase, Md. Grown by Mr. David Fairchild on his place "In the Woods." Received November 23, 1908.

Grown from dry-land rice No. 19188.

"Planted June 5; it matured a crop of ripe grain. I only planted a few kernels and it received no irrigation whatever. One plant had 17 heads on it and though not as tall as irrigated rice it looks like a promising thing to me. I also planted the same variety in April and got a good stand, somewhat better than the later planting, i. e., maturing earlier. I surmise that in such seasons as the last one (1908), May would be the best time to sow this rice in Maryland." (Fairchild.)

**24194. CARISSA CARANDAS L.**

From Peradeniya, Ceylon. Presented by Mr. John C. Willis, director, Royal Botanic Gardens. Received November 21, 1908.

See No. 23750 for description.

**24195. SCHOEENOCALYX OFFICINALE (Schlecht.) Gray. Cebadilla.**

From Vera Cruz, Mexico. Presented by Mr. William W. Canada, American consul. Received November 10, 1908.

"The party who procured some of this seed for us in 1905 informs us that it is poisonous, containing Veratrum, and is therefore generally used in the form of a tincture for destroying body lice, etc., as also ticks on cattle. There are other varieties of the same species—the *Zygadenus mexicanus* and the *Stenanthium frigidum*, but these are considered as inferior. The plant is indigenous to the soil in some parts of the State of Vera Cruz. Cebadilla is a common commodity procurable of druggists in the United States." (Extract from letter of Consul Canada, September 18, 1905.)

**24196. CITRUS NOBILIS LOUR. (?)****"Naartje."**

From Warm Baths, Transvaal, South Africa. Presented by Mr. C. A. Simmonds, at the request of Mr. R. A. Davis, government horticulturist, Transvaal Department of Agriculture, Pretoria. Received November 30, 1908.

*Groenskil.* "The word 'Groenskil' means green skin, and the fruit of this variety bears more resemblance to the Emperor mandarin perhaps than to most others. It hangs for a long time on the trees in good condition, and is the latest ripening variety we have. It is also more hardy than the 'Platskill' (S. P. I. No. 24326)." (Extract from letter of Mr. Davis, February 13, 1908.) See No. 21551 for further remarks.

**24197 to 24202.**

From Biloxi, Miss. Grown by Prof. S. M. Tracy, special agent, who procured the original seed from Prof. C. F. Baker, Experiment Station, Santiago de las Vegas, Cuba. Received November 30, 1908.

Plants of the following; notes by Professor Tracy:

**24197. CALOPOGONIUM COERULEUM (Benth.) Hemsl.**

A slender vine, 10 to 15 feet, rooting freely, poor climber, nodules abundant, no flowers.

**24198. CALOPOGONIUM ORTHOCARPUM Urb.**

A slender vine, 3 to 6 feet, rooting freely, poor climber, nodules abundant, no flowers.

**24199. GALACTIA TENUIFLORA (Willd.) W. & A.**

A slender, vigorous climber, nodules abundant, no seed.



**24197 to 24202—Continued.****24200.** *GALACTIA STRIATA* (Jacq.) Urb.

A slender, vigorous climber, nodules abundant, no seed.

**24201.** *TERAMNUS UNCINATUS* (L.) Swartz.

A dense mass of slender vines climbing poorly, nodules fair, no bloom.

**24202.** *BRADBURYA PLUMIERI* (Turp.) Kuntze.

A slender, thrifty climber, nodules few, no bloom.

**24203.** *CANANGA ODORATA* (Lam.) Hook. f. & Thoms. **Ilang ilang.**

From Lawang, Java. Presented by Mr. M. Buysman. Received December 11, 1908.

For description and other importations, see No. 22744.

**24204.** *CUCUMIS* sp.

From Ragaa, Bahr el Ghagel, Sudan, Africa. Presented by Mr. Hubert S. Smiley, Gallowhill, Paisley, Scotland. Received September 23, 1908.

"Seed of the *Koreish Battekh* (inedible oil pumpkin) is sown by natives among their other crops, all of which depend on rain. The oil from this pumpkin is used for cooking and other purposes, as is the better known 'semsen' oil. It is also used by the military and other officials, with the addition of tobacco juice, to protect their mules from the bite of the tse-tse fly. The oil is prepared as follows: Seeds are extracted and roasted similarly to the coffee beans; after roasting the seeds are ground up on a stove; after grinding they are thrown into a pot with oil and boiled. The oil comes to the top and is skimmed off for use." (*Smiley.*)

**24205.** *VICIA LEAVENWORTHII* Torr. & Gray.

From Arizona. Presented by Mr. Vernon Bailey, Bureau of Biological Survey, United States Department of Agriculture. Received December 3, 1908.

"These vetch seeds were collected September 23, 1908, at 8,500 feet altitude in the White Mountains of Arizona. The plant is abundant throughout Transition Zone, or from about 7,500 to 9,000 feet in the open yellow pine forest. It grows as a spreading bush 2 feet high and in many places covers the ground as an almost solid field of peas, loaded with fruit.

"Our horses were very fond of it and ate both pods and plant eagerly. For a week they had no other grain and ate little else, but steadily gained in flesh.

"Wild turkeys and grouse also feed on both its pods and leaves. It seems to be an unusually valuable forage plant." (*Bailey.*)

**24206 to 24310.**

From Chile. Received through Mr. José D. Husbands, Limávida, Chile, December 4, 1908.

The following seeds and plants; notes by Mr. Husbands:

**24206 and 24207.** *GREIGIA SPHACELATA* (R. & P.) Regel.**24206.** "Very spiny." (*R. A. Young.*)**24207.** "Slightly spiny." (*R. A. Young.*)**24208.** *PERSEA LINGUE* (R. & P.) Nees.

This is a very valuable industrial forest tree of large size, handsome, compact, evergreen, has glossy gray-blue-green leaves and is an extra quick grower; here it is not a delicate plant but grows quickly in any soil that is wet or very moist, also in water. The wood is light and tough like elm, but takes a very



## 24206 to 24310—Continued.

## 24208—Continued.

high finish. Its lumber is highly esteemed and is lasting if protected from the wet; used for furniture, bodies and poles of carts, ox yokes, etc. The wood is the color of white ash, finished has a yellowish tinge, takes any stain. Its bark is solely used for tanning and is largely exported to Europe. Every station south is filled to overflowing with thousands of bags of broken bark awaiting transportation. The forests are being stripped; in a very few years this tree will be very scarce. It is an extra beautiful shade tree. Its leaves are poisonous to animals, especially sheep, who are very fond of them. Medically it is a powerful astringent.

## 24209. JUGLANS NIGRA L.

## Black walnut.

The *Boliviana* black walnut is of Bolivian origin and is a notable, majestic forest tree with handsome hanging foliage; a quick grower of great industrial value. Its wood is exploited largely in Bolivia, is a hardwood beautifully veined in dark and light grains, taking a very high finish and useful for any purpose. I have seen treelets 8 months old that measured 1 inch in diameter 3 feet from the ground, and 8 feet high. The fruit is large, abundant, and oily, but is not edible on account of its bitterness. These trees have been recently introduced into Chile and few are bearing any considerable quantity of fruit.

## 24210. MEDICAGO SATIVA L.

## Alfalfa.

From Huasco in the northern part of Chile. It is called by botanists *Medicago sativa*, notwithstanding it is a new and very valuable strain still unnamed. In past times both common central Chile alfalfa and "Alfalfa Peruano" were sown; this I believe to be a cross between the two which combines the merits of both and is said to be the most valuable seed known.

## 24211 to 24225. Stringless beans grown by irrigation:

## 24211 and 24212. PHASEOLUS VULGARIS L.

## Bean.

24211. Fair quality only; prolific.

24212. Very good class having large, good-flavored pods; productive.

## 24213. VIGNA SESQUIPEDALIS (L.) W. F. Wight.

A curious bean, has pods from 12 to 18 inches long; "Monkey's tail."

## 24214 to 24225. PHASEOLUS VULGARIS L.

## Bean.

24214. "Alqueado." Very good and extra productive.

24215. Cream-colored pods, good flavor, productive.

24216. Extra superfine class, extra fine flavor, early, very prolific; a splendid bean to be eaten green.

24217. Green-colored pods, very prolific, medium quality.

24218. Early, good.

24219. "Cholos." Extra good class; extra large pods of good flavor; prolific.

24220. Early, good.

24221. Very good class.

24222. Cream-colored pod, extra early.

24223. Very good and extra productive.

24224. "Turruco." Good, prolific.

24225. Good class. Thin pod, good flavor, very prolific.

**24206 to 24310—Continued.****24226 to 24228. PHASEOLUS COCCINEUS L.****Scarlet runner bean.**

Beans of the Lima class used both for food and their flowers:

**24226.** "*Pallares*." Extra good.**24227.** Flowers bright crimson.**24228.** Flowers pink and scarlet.**24229 to 24261. PHASEOLUS VULGARIS L.****Bean.****24229 to 24231.** Field beans grown dry in the poorest soil:**24229.** Grown dry but in better and more moist soil than the other samples (S. P. I. Nos. 24230 and 24231).**24230.** Grown on the coast. Yellow; prolific.**24231.** "*Chinalya*." Grown on the coast.**24232 to 24261.** Field beans. Names are unreliable; the same beans are known by different names in different sections; should there be duplicates, they are grown under such distinct conditions as to water, soil, etc., as to justify sending them:**24232.** Unknown.**24233.** Productive and extra fine.**24234.** Unknown.**24235.** Unknown.**24236.** "*Trigo*" (wheat). Irrigated, extra fine, standard class.**24237.** "*Porotos Blanco*" (white beans). Excellent class; irrigated.**24238.** "*Baya Grande*." Productive, largely sown, extra good.**24239.** "*Baya Grande Pintado*." A very good and profitable bean; irrigated.**24240.** No data. I think it would grow dry.**24241.** No name. Irrigated; extra fine table class like *Mendes*; there are two sorts in this lot.**24242.** A white class very similar to others sent. These are grown at a distance in distinct soil and conditions. Extra good.**24243.** "*Mendes Blanco*." A first-class table bean; irrigated.**24244.** Irrigated; grown in sticky black clay, extra fine table class.**24245.** "*Manteca Claro*" (light-colored lard). An extra fine class of standard table beans.**24246.** "*Coscorrones*." Extra superfine class, very productive in good soil; irrigated.**24247.** "*Bayas Oscura*" (dark bay). Largely sown for the working class.**24248.** A valuable bean in every sense.**24249.** "*Gentlemen*." A standard class, extra good; irrigated.**24250.** "*Burritos*" (little donkey). Extra good; I think the same as "*Burros Claro*" (S. P. I. No. 24260).**24251.** Irrigated; extra fine table variety.**24252.** "*Aparecido*." Largest sown and best bean in Chile for laborers. Irrigated.

**24206 to 24310—Continued.****24229 to 24261—Continued.****24232 to 24261—Continued.**

**24253.** "*Rosillo.*" Productive and very good. Irrigated.

**24254.** A splendid variety for rich and poor. Swell to good size.

**24255.** Extra early; yellow pods; noncreeper; productive and extra good.

**24256.** "*Mendes.*" Irrigated. A fine table variety, extra good.

**24257.** "*Baya Chicha.*" Largely sown, profitable and good.

**24258.** "*Amarilla*" (yellow). Extra fine and very productive; a good bean.

**24259.** "*Aparecido Pintado.*" The largest sown and one of the best beans for the laboring classes.

**24260.** "*Burros Claro.*" A first-class bean, white when cooked. Irrigated. I think these are the same as "*Burritos*" (S. P. I. No. 24250).

**24261.** "*White Coscorrones.*" Extra superfine variety, productive in good soil. Irrigated.

**24262.** *PISUM ARVENSE* L.

**Field pea.**

. Exquisite flavor, sweet, medium late, prolific; white flower; extra fine variety.

**24263.** *CYNARA SCOLYMUS* L.

**Artichoke.**

"*Chileno.*" Common sort.

**24264.** *VICIA FABA* L.

**Broad bean.**

Very large and early.

**24265.** *CICER ARIETINUM* L.

**Chick-pea.**

"*Garbanzas.*" Grown dry in poor soil. Sown the same as beans in rows or hills.

**24266.** *LUPINUS* sp.

A papilionaceous legume which grows wild in the sands near the seacoast. Yellow flower. Might be made a food plant.

**24267.** *LUPINUS* sp.

A papilionaceous legume which grows wild in the sands near the sea. Blue flower. Said to be used roasted as a substitute for coffee, but I think it is bad for this purpose. Might be made a food plant.

**24268 to 24278.** *CUCURBITA* sp.

**Squash.**

**24268.** Mottled skin, black and red variety; large size; very good.

**24269.** Mottled skin, yellow and dark green; large size; very good.

**24270.** Extra good variety; thick, mealy, sweet flesh; large and prolific.

**24271.** Extra good class, medium size; prolific; meat very thick, mealy, and extra sweet.

**24272.** Light drab color; large size and prolific; medium quality.

**24273.** Oblong shape.

**24274.** Yellow and drab color; medium thick and sweet flesh.

**24275.** Flesh color and white; thick meat.

**24276.** Blackish green with white stripes; thick, mealy, sweet flesh; prolific; extra good.

**24206 to 24310—Continued.****24268 to 24278—Continued.****24277.** Thick, sweet flesh; productive; extra good.**24278.** White skin; thick, mealy, sweet meat; good.**24279 and 24280.** CUCURBITA PEPO L.**Pumpkin.****24279.** A distinct class of good quality, about 20 inches long and from 4 to 6 inches wide; prolific and a good keeper.**24280.** A distinct class; sweet but fibrous; grows large.**24281 to 24293.** CUCURBITA sp.**Squash.****24281.** A black-skinned variety having thick, mealy, sweet flesh; good.**24282.** Sweet, mealy, fiberless, and fleshy; good.**24283.** Greenish white tint; thick, mealy, sugar-sweet flesh, no fiber; extra good.**24284 and 24285.** (No description.)**24286.** Extra good class; medium size; thick, mealy, fiberless, extra sweet flesh; prolific.**24287.** Black skin, fine sort.**24288 to 24291.** (No description.)**24292.** A very good variety, called here tin colored; sweet, thick, fiberless flesh; large size; prolific; good keeper.**24293.** (No description.)**24294 to 24301.** CAPSICUM ANNUUM L.**Pepper.***Aji Chielno.* Various sorts in daily use; noted for their extra fine flavor. Chile gave potatoes and red peppers to the world.

Ground or pounded with stones and mixed with finely chopped onions washed in salt and water and afterwards squeezed dry and wet with vinegar, they form a delicious seasoning sauce. In cooking it is used as "color." Heat the fat or butter until it is hot enough to sputter when a drop of water is dropped into the same, put the pounded or coarsely ground peppers into the same, and leave about a quarter of a minute; then add a little cold water, the object being to extract the color and flavor of the peppers in the grease and not permit the fire to so cook the peppers as to spoil the color or make the fat bitter or of bad flavor from overcooking. This red grease is used in every kitchen to flavor all unsweetened foods. The degree of hotness is determined by the amount of grease employed. Anything fried or roasted is much improved by its use; meats, fowls, and vegetables (especially onions) fried first in "color" and afterwards made into soups, etc., are fine in flavor and attractive in appearance.

**24294.** Small size, hot kind.**24295.** Common variety in daily use in every house.**24296.** Common variety in general daily use.**24297.** Pepper eaten green in soups, sauces, etc.**24298.** Common hot sort.**24299.** Medium hot, common variety.**24300.** "*White Chileno.*" Eaten green as a relish in soups, sauces, salads, pickles, etc., not nearly as hot as tabasco but better flavor.**24301.** "*Goat Horns.*" Common variety in daily use.**24302.** SOLANUM sp.

**24206 to 24310—Continued.**

**24303 and 24304.** *OPUNTIA FICUS-INDICA* (L.) Mill.

**24303.** Fruit of this is oblong and ripens in winter; the leaf is narrow and 2 to 3 feet long.

**24304.** Fruit of this ripens in midsummer; the leaves are large and thick; the thorns are very small.

**24305.** *ANDROPOGON SORGHUM* (L.) Brot.

**Durra.**

A food plant recently found in Chile; unknown.

"White durra with small, semicompact heads; glumes very pale and densely hairy, due probably to dry environment; seeds small, circular, and less flattened than in our domestic variety; florets awned; resembles somewhat the white durra of Syria." (*Carleton R. Ball.*)

**24306.** *CUCURBITA* sp.

Alcayota, vegetable marrow; used for making preserves.

**24307.** *CANNABIS SATIVA* L.

**Hemp.**

The ordinary Chile sort; about the year 1545 it was introduced by the Spanish and has been largely grown since.

**24308.** *HORDEUM VULGARE* L.

**Barley.**

The common Chile sort; grown on dry hills in the worst class of red clay soil; if this same seed is sown in better land it increases largely in weight and size and grows cleaner. This seed is sent as harvested and thrashed by mares.

**24309.** *ACACIA CAVENIA* (Mol.) Bert.

"*Espino de Chile.*" An exceedingly valuable wild thorn tree, grows abundantly throughout central Chile, seeks the driest regions, and is generally used for fences, is impassable and durable if cut when the sap is down; when green, is flexible. It is used as a fence without posts, but more generally is woven between three wires, thus making a very cheap and effective fence. The wood is red streaked with black, extra hard, is used for cogs in mill wheels, and spokes of the heaviest carts, coaches, etc., are made from it. This wood makes the best, hottest, and most lasting charcoal, used exclusively for heating dwellings. Grows quickly in worst dry soil of any class; the long taproot reaches moisture at great depths in a few months. Sheep and goats are especially fond of the new leaf growth and the seeds. The seeds are sown with the dung of these animals. They require a long soak. These trees, when cut, quickly sprout anew. Their natural shape is half round; when pruned, they grow round. It is a splendid shade tree. Leaves are very fine and beautiful. Every part of the branches blooms (the females only) early upon the naked tree before leafing, forming a dense mass of yellow flowers so deliciously fragrant that the fragrance is extracted by the Paris perfumers.

**24310.** *CRYPTOCARYA RUBRA* (Mol.) Skeels.

Peumo with crimson fruit.

**24311.** *CITRUS AURANTIUM SINENSIS* L.

**Sweet orange.**

From Brazil. Presented by Mr. Pierre Paul Demers, American consul, Bahia, Brazil. Received December 11, 1908.

*Bahia* navel orange. "These scions were cut from very healthy orange trees, namely, the navel orange grafted upon the 'Laranja da terra.' I have eaten an orange from one of these trees measuring 15 inches in circumference, and its flavor was delicious. About one-third of these scions came from that particular tree.



**24311—Continued.**

"According to planters here the scions grafted upon 'Laranja da terra' give better results than those grafted upon the 'Laranja tanga.' For that reason the latter is not much used.

"These scions come from practically the only regular orange grove in this city, located at Cabula, about 3 miles from this place. The soil upon which the trees grew contains 60 per cent, more or less, of reddish clay. Navel oranges retail here for 3 and 4 cents each. They are not raised in sufficient quantities to supply the local demands, a fact which is only attributable to the laziness of the natives." (*Demers.*)

**24312. VITIS VINIFERA L.****Grape.**

From Beni Abbes, Africa. Presented by Dr. L. Trabut, Mustapha, Algiers, Algeria. Received December 11, 1908.

"Large late grape. Reproduces itself from seed." (*Trabut.*)

**24313. ILEX PARAGUARIENSIS St. Hil.**

From Buenos Aires, Argentina. Presented by Hon. Carlos Thays, director, Government Botanical Gardens. Received December 12, 1908.

For description, see No. 3035. For previous introductions, see that number; also, Nos. 8953 and 19105.

**24314 to 24325.**

From De los Villares de la Reina, Salamanca, Spain. Procured by Mr. M. Fraile, of this Department, at the request of Mr. Walter T. Swingle. Received September 15, 1908.

The following seeds, descriptive notes by Mr. Fraile:

**24314. PISUM SATIVUM L.****Pea.**

The common narrow-podded garden pea of Spain.

**24315. VICIA MONANTHOS (L.) Desf.**

This is used for making a food concentrate for animals, being ground and mixed with coarser material, such as straw and the like.

**24316. LATHYRUS SATIVUS L.****Grass-pea.**

"*Muelas.*" Used both as a food and for feeding animals.

**24317. AVENA SATIVA L.****Oat.**

Common variety of oats in the vicinity from which this particular sample came, near the village of De los Villares de la Reina, in the Province of Salamanca.

**24318. HORDEUM VULGARE L.****Barley.**

In this particular vicinity this variety is used for feeding and not for brewing.

**24319. VICIA ERVILIA (L.) Willd.****Bitter vetch.**

An unknown variety. This vetch is ground like the algarroba (S. P. I. No. 24315) and mixed with roughage as a feed for oxen.

**24320. LENS ESCULENTA Moench.****Lentil.**

Used as a food and for fattening pigs.

**24321. CICER ARIETINUM L.****Chick-pea.**

One of the commonest articles of food among a large proportion of the population of Spain.

**24322. CICER ARIETINUM L.****Chick-pea.**

This variety is prized for its greater endurance of untoward conditions than the preceding (S. P. I. No. 24321) and giving higher yields.



**24314 to 24325—Continued.****24323. TRITICUM AESTIVUM L.****Wheat.**

*Candeal* (white or summer). A common variety of bearded wheat used for bread making in Spain.

**24324. TRITICUM DURUM Desf.****Durum wheat.**

*Rubion* (red). A hard, bearded wheat, said to be used to some extent in the making of macaroni and for fattening pigs.

**24325. TRITICUM AESTIVUM L.****Wheat.**

*Mocho*. A beardless variety of wheat grown in Spain.

**24326. CITRUS NOBILIS Lour. (?)****"Naartje."**

From Warm Baths, Transvaal, South Africa. Presented by Mr. C. A. Simmonds, at the request of Mr. R. A. Davis, government horticulturist, Transvaal Department of Agriculture, Pretoria. Received December 14, 1908.

*Platskill*. "The meaning of *Platskill* is flat or smooth skin and appears also to apply to the shape of the fruit. The skin of this variety adheres closely to the segments and there is never any of the puffiness which accompanies so many varieties of mandarins. Although so closely adhering, it can be easily removed with the thumb and finger, but it is not exactly what one would call a 'kid glove' orange." (Extract from letter of Mr. Davis, dated February 13, 1908.) See No. 21551 for further remarks.

**24327 to 24332. ORYZA SATIVA L.****Rice.**

From Honolulu, Hawaii. Received from Mr. F. G. Krauss, in charge of Rice Investigations, Hawaii Experiment Station, December 14, 1908.

Seed of each of the following rices, descriptive notes by Mr. Krauss:

**24327.** Sample of our old type Japan seed, No. 153, which has been carefully selected for some years.

**24328.** Variety No. 144, originally received through your Bureau as S. P. I. No. 12765. A very dwarf type of Japan seed; plant averaging less than 20 inches in height, fine foliaged and stemmed, of spreading habit, heavy tillering, 25 fruiting culms per plant; small seeded; matures in one hundred to one hundred and ten days from sowing.

**24329.** Variety No. 161 (*Omachi*), 24 inches to 28 inches tall; slightly spreading and inclined to lodge in heavy weather. Yields well and produces a good kernel; one hundred and ten to one hundred and twenty days to maturity. Similar to No. 153 (S. P. I. No. 24327).

**24330.** Variety No. 162 (*Shimokaburi*), 26 inches to 30 inches tall; of erect growth; tillers well and bears heavily; kernel not of highest type.

**24331.** Variety No. 165. An opaque kernel type; 36 inches to 40 inches tall; inclined to lodge; yields well; a kernel suited to the manufacture of oriental cake flours; matures one hundred and twenty days.

**24332.** Variety No. 163. Japan type, received by Hawaii station from Dr. G. Otsaka, Imperial Agricultural Experiment Station, Kumamoto, Japan, fall of 1907. Said to be "the most prevailing variety in the southern prefectures," there called "Shinriki" or "Sinriki."

Seed sown February 12, 1908; matured and was harvested June 25. Height 25 inches to 28 inches; fine stemmed; well foliaged; tillers well; quite spreading, but not inclined to lodge. Yields prolifically a medium small kernel of excellent quality. Recommended for further trial.

**24333. TUMION CALIFORNICUM (Torr.) Greene.****California nutmeg.**

From San Francisco, Cal. Presented by Mr. Marsden Manson, Mechanics Bank Building. Received November 21, 1908.

'This is a rare and very beautiful ornamental tree, reaching a size of at least 3 to 4 feet in diameter and 50 to 75 feet in height, with handsome dark olive-green leaves, somewhat like the leaves of the large fir. It requires a deep, moist, and well-drained loam, and is a fairly rapid grower after once starting. The nuts sprout quickest if planted in a paper or straw box and carefully hulled.' (*Manson.*)

**24334. CERATONIA SILIQUA L.****Carob tree.**

From Miami, Fla. Received from Mr. P. J. Wester, in charge, Subtropical Garden. Received December 14, 1908.

Grown from No. 6342. See No. 3112 for description.

**24335 and 24336.**

From Marandellas, Rhodesia, South Africa. Presented by Mr. J. H. Finch through Mr. W. D. Warne, Umtali, Rhodesia. Received December 14, 1908.

The following seeds:

**24335.** ELEUSINE CORACANA (L.) Gaertn.

**Ragi millet.**

**24336.** PENNISETUM AMERICANUM (L.) Schum.

**Pearl millet.**

**24337. THESPIESIA POPULNEA (L.) Soland.**

From Miami, Fla. Received from Mr. P. J. Wester, in charge, Subtropical Garden, December 16, 1908.

See No. 24135 for description.

**24338. PINUS PEUCE Griseb.**

From Bulgaria. Presented by Prof. C. S. Sargent, Arnold Arboretum, Jamaica Plain, Mass. Received December 17, 1908.

"This is one of the best exotic pines for the Northern States." (*Sargent.*)

**24339 to 24347.**

From Pretoria, Transvaal, South Africa. Presented by Prof. J. Burt Davy, agrostologist and botanist, Transvaal Department of Agriculture. Received December 15, 1908.

The following seeds:

**24339.** ANDROPOGON SORGHUM (L.) Brot.

"Variety *Roxburghii*. The dark glumes are gaping and involute at maturity; seeds much as the following (S. P. I. No. 24340) but more flinty; awned." (*Carleton R. Ball.*)

**24340.** ANDROPOGON SORGHUM (L.) Brot.

"Probably variety *Roxburghii*. Seeds medium size, somewhat flattened, flinty." (*Carleton R. Ball.*)

**24341.** VIGNA UNGUICULATA (L.) Walp.

**Cowpea.**

**24342.** PISUM ARVENSE L.

**Field pea.**

**24343.** ELEUSINE CORACANA (L.) Gaertn.

**Ragi millet.**

**24344.** SESAMUM ORIENTALE L.

**Sesame.**

**24345.** ARACHIS HYPOGAEA L.

**Peanut.**

**24346.** PHASEOLUS VULGARIS L.

**Bean.**

**24347.** ORYZA SATIVA L.

**Rice.**

**24348. DIOSCOREA sp.****Yam.**

From Manila, Philippine Islands. Presented by Mr. W. S. Lyon. Received December 16, 1908.

"*Tongó*. This is far the best yam in existence, in my opinion, which is based upon experience with two or three of the alleged best varieties of both the East and West Indies.

"Habitat: Thin wooded or brush lands, growing in pretty stiff clay. Ripens and stays dormant in the ground from October or November until the following May." (*Lyon.*)

**24349. HIPPEASTRUM sp.**

From Caldera, Chile. Presented by Señor Enrique E. Gigoux. Received December 18, 1908.

"A yellow-flowered ornamental form." (*P. L. Ricker.*)

**24350. BAMBOS SENANENSIS Franch. & Sav.****Bamboo.**

From Japan. Purchased from the Yokohama Nursery Company, Yokohama, Japan, through Mr. William D. Hills, agricultural explorer. Received November 27, 1908.

"Seed produced in Shinshu and Hida provinces only." (*Hills.*)

*Suzu-Dake*. "This bamboo also goes by the following names: *Yama-Dake*, *Mi-Suzu*, and *No-Suzu*, and in several of the provinces is often called *Hei-Jiku-Chiku*. It resembles *Kuma-Zasa* (*B. veitchii* or *B. palmata*, both of which go by this name) but is larger. The nodes are not prominent and the largest stems attain a growth of 1 sun (inch) with a stature of 10 feet and more. The leaves are 5 or 6 sun in length with a width of about 1 sun, narrower than those of the sasa and tapering off at the tip. Seen from a distance the tree resembles *Miscanthus sinensis* (*Xiphagrostis japonica* (Thunb.) Coville).

"*B. senanensis* grows wild on mountains and open uplands and resists the greatest extremes of cold. It spreads right into the deepest recesses and up to the highest summits of the mountains. In some places it grows and spreads over an extent of many square miles, being especially abundant at Suwa and Kiso, in the province of Shinano, and the hills of Nambu in the province of Rikuchiu.

"In China this bamboo is said to be used for making arrows. It is tough and flexible, so that crooked stems can be easily straightened, but the slender culms of those found in the Kiso Mountains are perfectly straight and well formed. They are split in half and plaited into baskets of various shapes and into mats, forming one of the products of Shinano. Where this bamboo grows wild it hinders the development of trees and obstructs the path of the mountaineer; but it is very useful for binding together the crumbling sides of declivities and for thatching the cottages of the peasantry, in mountainous parts of the country.

"Both in China and in the northern parts of Japan the young sprouts are pickled and eaten. Furthermore, the seeds of this plant and of the sasa furnish the poorer classes with food.

"In 1843 all the bamboos around the town of Takayama, in Hida, for a distance of many miles seeded, and the population, young and old, assembled to harvest the crop at the rate of 5 or 6 *to* (equals one-half bushel) per diem—in all, some 250,000 *koku* (the *koku* equals 5 bushels, nearly). This bamboo seed resembles wheat somewhat, both in shape and taste, the common people calling it natural rice or bamboo corn. It is eaten either parched or ground, the flour being made into small dumplings and coarse vermicelli. Chemical analyses show that the composition is the same as that of wheat or rye." (*Adapted from Satow's Cultivation of Bamboos in Japan.*) (*Walter Fischer.*)

## 24350—Continued.

"Introduced especially for the purpose of testing its stems in the manufacture of a matting woven for the purpose of taking the place of ordinary laths. If the stems are suitable for lath-matting purposes it may be possible to grow this bamboo profitably on steep hillsides in the South. Its use as a soil-binder is worthy of consideration, but the effect on the development of trees should be carefully considered before the plant is given a wide distribution." (*David Fairchild.*)

## 24351. ALEURITES MOLUCCANA (L.) Willd.

## Candle nut.

From Honolulu, Hawaii. Received through Mr. J. E. Higgins, horticulturist, Agricultural Experiment Station, December 17, 1908.

"Seeds procured for experiments in Cuba, Isle of Pines, and Porto Rico and for the expression of samples of candle-nut oil for analysis and comparison with the oils furnished by other species of the same genus.

"*Aleurites moluccana* (very generally known also under the synonym of *A. triloba*) is at home throughout Malaysia and Polynesia and has been naturalized on the tropical mainland of Asia, in Madagascar, and other tropical countries. It is abundant in the forests of New Guinea, Queensland, Samoa, Tahiti, New Caledonia, Fiji, and many of the Malayan Islands, extending to the Philippines. It is strictly an East Indian or Polynesian plant and may not originally have been native farther west than Java. The tree in its native haunts appears to prefer protected situations, being common in woods and especially in narrow valleys and gullies. It grows luxuriantly to an altitude of 3,000 feet, becoming gradually rarer to 4,000 feet, when it falls off altogether. It is a rapid grower and gross feeder, and propagates itself readily from seeds, which sprout in from 4 to 5 weeks. Its large, three-lobed leaves, silvery pubescent underneath and glossy above, make it admirably suited for shade and ornament in tropical countries, where it should be planted for its valuable seeds.

"The fruits resemble in size, and somewhat in appearance, the black walnut, with a thick fleshy rind and one or two heart-shaped seeds about the size of a horse-chestnut. The seeds or nuts are very thick shelled, containing but 33 per cent of kernel. The kernels yield approximately 60 per cent oil, making for the unshelled seeds 20 per cent of oil, which, owing to the thickness of the shells, is lower than that for *Aleurites fordii*, although the percentage of oil in the kernel is higher than in the Chinese species. The raw kernels are purgative, but are said to lose this property when roasted; so, too, the half-ripe seeds are considered of delicate flavor when eaten with salt, while the ripe ones are unwholesome. The Pacific islanders roast or cook the nuts slightly, when the shells can be broken with a light tap. The kernels are then threaded on bamboo splinters or cocoanut-leaf ribs, bound in leaves or bark, and in this way beautifully bright burning, but sooty and disagreeably smelling torches are obtained—herein the origin of the name candle nut.

"Candle-nut oil is known and sold under many names, which are used also to designate the tree or nuts which produce it: In Hawaii, kukui; in Ceylon, kekune; in India, belgaum walnut; in Jamaica, Spanish or country walnut; in the Philippines, lumbang; in French colonies, bancoul or noix de Moluques or chandelles (candle). According to Louis Edgar Andés the oil compares favorably with linseed in the durability of products made from it, but with some advantage over the latter in the rapidity with which it dries. It can consequently be used industrially for the manufacture of the same products. Its present price however—due principally, it seems, to the lack of cheap and efficient methods of shelling the nuts—does not allow it to compete with linseed. Candle-nut oil is not imported into the United States, but small quantities of the kernels find their way from Australia, various parts of Polynesia and Malaysia and the Philippines to European ports, where the oil expressed from them is used principally for soap making." (*Walter Fischer.*)

**24353 to 24364.**

From Chile. Received through Mr. José D. Husbands, Limávida, Chile, December 17, 1908.

The following seeds, with notes by Mr. Husbands:

**24353. MEDICAGO SATIVA L.** Alfalfa.

Imported from Switzerland.

**24354 to 24357. CUCURBITA sp.** Squash.

**24354.** Extra large; good for fodder.

**24355.** From Curico. A good table class.

**24356.** From Curico. A good table class.

**24357.** From Rancagua. A good table class.

**24358. SOLANUM TUBEROSUM L.** Potato.

"*Perhuenchas*." Named from an Indian tribe of the same name. Grown without deterioration from the beginning of colonial days.

**24359. PASSIFLORA QUADRANGULARIS L.**

"*Pasionaria de Ecuador*." Has an edible fruit; I think it has a blue flower. Grown in Chile.

**24360. PASSIFLORA PINNATISTIPULA Cav.**

"*Pasionaria de Chile*." The wild residence of this plant is in the provinces of Valparaiso and Aconcagua, near the sea. It belongs to the subgenus *Tacsonia* of *Passiflora*.

**24361 to 24364. ANONA CHERIMOLA Mill.**

**24361 and 24362.** (No remarks.)

**24363.** Somewhat small, with dark skin.

**24364.** A large variety, about 5 inches by 4 inches; a splendid fruit.

**24365 and 24366. MALUS spp.**

From Jamaica Plain, Mass. Presented by Mr. Jackson Dawson, Arnold Arboretum. Received December 19, 1908.

Seeds of the following:

**24365. MALUS SYLVESTRIS × BACCATA.**

**24366. MALUS BACCATA (L.) Moench.**

"These are extraordinary keepers, and, as most of our crab apples are not good keepers, these therefore may be used in experimental work." (*Dawson*.)

To be used in breeding or as stocks in cooperative experiments with the Mississippi Valley Apple Breeders' Association.

**24367. MEDICAGO SATIVA L.** Alfalfa.

From Arabia. Purchased from Mr. H. P. Chalk, manager for the Hills Brothers Company, in Bussorah, Persian Gulf, through Mr. William C. Magelssen, American consul, Bagdad, Turkey. Received December 5, 1908.

*Arabian alfalfa* or *Jet*. (See No. 12992 for description.) This has proved of great promise in Arizona and California.

**24368. PANICUM SULCATUM Aubl.**

From Miami, Fla. Received through Mr. P. J. Wester, in charge, Subtropical Garden, December 5, 1908.



**24368—Continued.**

"This plant does exceedingly well here, and it has recently occurred to me that it would be a successful and cheap substitute for palms for decorative purposes in the North." (*Wester.*)

"This is extensively grown in gardens in Mexico as an ornamental under the name of 'Hoja de vandra.'" (*Frederic Chisolm.*)

**24369. VIGNA UNGUICULATA (L.) Walp.****Cowpea.**

From Biloxi, Miss. Procured by Prof. S. M. Tracy. Received November 25, 1908.

"A variety of cowpea, the vines of which were 50 feet long, and it was stated by the owner to grow 100 feet long. The plants were dead when I saw them, but the owner states that the plant is perennial. The pods are very large, measuring 10 inches in length and  $\frac{1}{2}$  inch in width, while the seeds closely resemble those of the ordinary *Whippoorwill* variety." (*Tracy.*)

**24370 to 24401.**

From Russia. Received through Prof. N. E. Hansen, director, Agricultural Experiment Station, Brookings, S. Dak., December, 1908, while traveling as an agricultural explorer for this Department.

The following seeds and cuttings:

**24370. RIBES NIGRUM L.**

**24371. RIBES sp.**

"(No. 5.) A wild black currant from near village Mali Ssusum, steamer landing place on the Obi River, a short distance north of Barnaul, Tomsk, western Siberia." (*Hansen.*)

**24372. RIBES sp.**

(Stat. Baljatakaija.)

**24373. RIBES sp.**

**24374. RIBES sp.**

"(No. 96.) A wild black currant from Taischet, between Krasnojarsk, central Siberia, and Irkutsk, on Lake Baikal, Siberian railway. For fruit breeding." (*Hansen.*)

**24375. RUBUS sp.**

"(No. 1.) A red wild raspberry as found native at Besentsug, near Samara, Volga River region, Russia. For fruit breeding." (*Hansen.*)

**24376. RUBUS FRUTICOSUS L.**

"(No. 6.) A wild raspberry gathered near Gorodische, on Obi River, a few miles north of Barnaul, Tomsk, western Siberia. Fruit much gathered by peasants and sold at steamer landings." (*Hansen.*)

**24377. RUBUS FRUTICOSUS L.**

"(Nos. 30 and 31.) A wild raspberry much gathered by peasants in western Siberia; this was procured at steamer landing Katschiskaya. For fruit breeding." (*Hansen.*)

**24378. RUBUS sp.**

"(No. 34.) Wild red raspberry from station Tiaschet, between Krasnojarsk, central Siberia, and Irkutsk, on Lake Baikal, Siberian railway. For fruit breeding." (*Hansen.*)



## 24370 to 24401—Continued.

24379. *RUBUS CHAMEAMORUS* L.

"(No. 95.) A wild red raspberry from vicinity of Irkutsk, near western shore of Lake Baikal, eastern Siberia. May prove useful in plant breeding." (Hansen.)

24380. *PRUNUS PADUS* L.

"(No. 7.) A wild cherry gathered by peasants and sold at steamer landing at Gorodische, on Obi River, a few miles north of Barnaul, Tomsk, western Siberia." (Hansen.)

24381. *PRUNUS PADUS* L.

(Bada.)

24382. *PRUNUS PADUS* L.

(Bada.)

24383. *PRUNUS PADUS* L.

(Bada Baikal.)

24384. *PRUNUS DOMESTICA* L.

24385. *ROSA* sp.

"(No. 19.) A wild rose as found between Ruchekowa and Koliwan, in northern Altai Mountain Range, southern Tomsk province, western Siberia." (Hansen.)

24386. *ROSA* sp.

"(No. 20.) A wild rose as found between Ruchekowa and Koliwan, in northern Altai Mountain Range, southern Tomsk province, western Siberia." (Hansen.)

24387. *ROSA* sp.

"(No. 47.) Wild rose from a sand desert, an arm of the Gobi desert, at station Charonte, Transbaikal region, a few miles over the Chinese border, on the Siberian railway." (Hansen.)

24388. *ROSA* sp.

"(No. 80.) A wild rose from the open steppe at Belaglasowa, southern Tomsk province, western Siberia." (Hansen.)

24389. *MALUS* sp.

"(No. 36.) From village Lisinsk, Semipalatinsk province, western Siberia. Probably a variety of the Siberian crab, *Pyrus (Malus) baccata*. See No. 44 (S. P. I. No. 24390)." (Hansen.)

24390. *MALUS* sp.

"(No. 44.) Same as No. 36 (S. P. I. No. 24389). Both from a lot sent to the experiment station, Omsk, Siberia." (Hansen.)

24391. *PYRUS* sp.

"(No. 45.) A small-fruited yellow pear sold by Chinese at fruit bazaar, station Manchuria, Siberian railway. Said to come from Harbin." (Hansen.)

24392. *MALUS* sp.

"(No. 48.) Seeds of a medium-sized subacid apple, yellow with red blush; sold by Chinese at fruit bazaar, station Manchuria, Siberian railway. Said to be shipped from Harbin district." (Hansen.)

24393. *MALUS* sp.

"(No. 49.) Same as No. 44 (S. P. I. No. 24390), but of a larger fruited variety." (Hansen.)

**24370 to 24401—Continued.****24394.** PYRUS sp.**24395.** CRATAEGUS sp.**Hawthorn.**

"(No. 62.) Native hawthorn from Irkutsk, near Lake Baikal, eastern Siberia." (Hansen.)

**24396.** VACCINIUM sp.

"(No. 46.) As gathered wild near Chita, Transbaikial region, and sold on fruit bazaar. The largest fruit of blueberry type I have ever seen, averaging three or four times larger than ordinary blueberries." (Hansen.)

**24397.** FRAGARIA VESCA L.

"(No. 2.) Seeds of a wild strawberry from near Syrastan, on the Siberian railway, western Siberia, between Zloutoust and Chelabinsk. For fruit breeding."

**24398.** RUBUS sp.

"(No. 97.) Wild raspberry from station Bogotol, between Taiga and Krasnoyarsk, central Siberia, on Siberian railway." (Hansen.)

**24399.** FRAGARIA VESCA L.

(St. Tajga.)

**24400.** PAEONIA sp.

"(No. 93.) As found wild near Stretinsk, near beginning of the Amur River, Transbaikial region, eastern Siberia. Here it gets extremely cold in winter. Of interest to breeders of Paeonias." (Hansen.)

**24401.** CORYLUS sp.

"(No. 70.) Probably *C. heterophylla*. The wild hazelnut from near Buchedu, in the Chingan Mountains, on the Siberian railway, in western Manchuria, the farthest eastern point reached in my 1908 trip." (Hansen.)

**24402 and 24403.**

From Piracicaba, Brazil. Presented by Dr. J. W. Hart. Received February 28, 1908. Numbered for convenience in distributing December, 1908.

The following plants:

**24402.** PANICUM MUTICUM Forsk.**Para grass.**

Apparently distinct from the ordinary variety of Para grass grown in the United States.

**24403.** CAPRIOLA DACTYLON (L.) Kuntze.**Bermuda grass.**

This grass is grown in Brazil under the name of "*Graminaz fina*." The variety is apparently distinct from the ordinary variety of Bermuda grass grown in the United States.

**24404. COPERNICIA CERIFERA Mart. Carnauba palm or Brazilian wax palm.**

From Piracicaba, Brazil. Presented by Dr. J. W. Hart. Received December 26, 1908.

"This tree is not native to this section of Brazil and it may be possible that these seeds will give you hardier plants than those grown in the hotter portions of the country." (Hart.)

"The stem of this plant furnishes starch; the sap, sugar; the leaves, a rope fiber; the pinnæ are woven into mats, hats, baskets, and brooms; the inner part of the leaf stalks serves as a substitute for cork, and most important of all the young leaves are

**24404—Continued.**

covered with a valuable wax harder than that of bees and used for making candles, covering phonograph cylinders, etc. Each tree furnishes about 4 pounds of wax annually." (*Adapted from Von Mueller.*)

**24405 to 24413. EUCALYPTUS spp.**

From Los Angeles, Cal. Purchased from Messrs. Johnson & Musser. Received December 21, 1908.

Seed of the following varieties to be tested in south Texas, Florida, and the Gulf Coast States on the recommendation of Messrs. Johnson & Musser:

- 24405. *EUCALYPTUS CORNUTA* Labill.
- 24406. *EUCALYPTUS CLADOCALYX* F. Muell.
- 24407. *EUCALYPTUS LEUCOXYLON* F. Muell.
- 24408. *EUCALYPTUS LONGIFOLIA* Link.
- 24409. *EUCALYPTUS POLYANTHEMOS* Schauer.
- 24410. *EUCALYPTUS LONGIROSTRIS* Muell.
- 24411. *EUCALYPTUS RUDIS* Endl.
- 24412. *EUCALYPTUS SIDEROPHLOIA* Benth.
- 24413. *EUCALYPTUS VIMINALIS* Labill.

**24415. EUCALYPTUS ALBA Reinw.**

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Department of Agriculture. Received December 4 and 21, 1908.

See No. 21394 for previous introduction and descriptive note.

**24416. FRAGARIA sp.****Strawberry.**

From Shanghai, Kiangsu, China. Presented by Mr. J. M. W. Farnham. Received at the Plant Introduction Garden, Chico, Cal., December 16, 1908.

White.

**24417 and 24418.**

From China. Received through Mr. Frank N. Meyer, agricultural explorer, at the Plant Introduction Garden, Chico, Cal., 1907; numbered for convenience in recording distribution December, 1908.

**24417. CINNAMOMUM CAMPHORA (L.) Nees & Eberm. (?)**

From Hangchow, Chekiang, China. "(No. 736a, June 27, 1907.) A very ornamental evergreen tree, bearing leaves like the camphor tree, but darker green and producing blue-black berries on red petioles. The Chinese chop the leaves up very fine, let them steep in water with clay or soil, and obtain a very good, weather-resisting cement in that way, especially used in plastering over old coffins which are kept standing above the ground." (*Meyer.*)

**24418. SALIX BABYLONICA L.**

From Fengtai, near Peking, Chihli, China. "(No. 665a, Mar. 26, 1907.) A weeping willow growing on very dry places; used as a shade tree in the streets of Peking under trying climatic and other conditions; well worth giving a trial in the western regions of the United States. Chinese name *Tsa yang liu.*" (*Meyer.*)

**24419. GARCINIA sp.**

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Department of Agriculture. Received December 30, 1908.

Variety *pyriformis*.

**24420. TRIFOLIUM SUBTERRANEUM L.**

From Auckland, New Zealand. Presented by Mr. A. B. Leckenby, Central Hotel, through Mr. C. V. Piper. Received December 21, 1908.

"Abundant and useful in New Zealand." (*Leckenby*.)

**24421. ANONA CHERIMOLA Mill.**

From Calabria, Valley of Messina, Italy. Presented by Mr. C. Sprenger, Vomero, Naples, Italy. Received December 3, 1908.

Variety *Calabrica*.

**24422 to 24428.**

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Department of Agriculture. Received December 28, 1908.

The following seeds:

**24422.** STIZOLOBIUM sp.

**24426.** MUCUNA sp.

**24423.** STIZOLOBIUM sp.

**24427.** MUCUNA sp.

**24424.** STIZOLOBIUM sp.

**24428.** MUCUNA sp.

**24425.** MUCUNA sp.

**24429. CUCUMIS MELO L.****Muskmelon.**

From Odessa, Russia. Presented by Mr. Alfred W. Smith, American vice and deputy consul. Received December 28, 1908.

"This is a variety of sweet melon grown here and cultivated in several colors. It is known here as '*Kachanka*' and sometimes also called '*Tsesarka*,' on account of its spotted surface, resembling a guinea fowl's plumage." (*Smith*.)



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U. S. DEPARTMENT OF AGRICULTURE.

BUREAU OF PLANT INDUSTRY—BULLETIN NO. 162.

B. T. GALLOWAY, *Chief of Bureau.*

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# SEEDS AND PLANTS IMPORTED

DURING THE PERIOD FROM JANUARY 1  
TO MARCH 31, 1909:

INVENTORY No. 18; Nos. 24430 to 25191.

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ISSUED DECEMBER 24, 1909.



WASHINGTON:  
GOVERNMENT PRINTING OFFICE.

1909.



## BULLETINS OF THE BUREAU OF PLANT INDUSTRY.

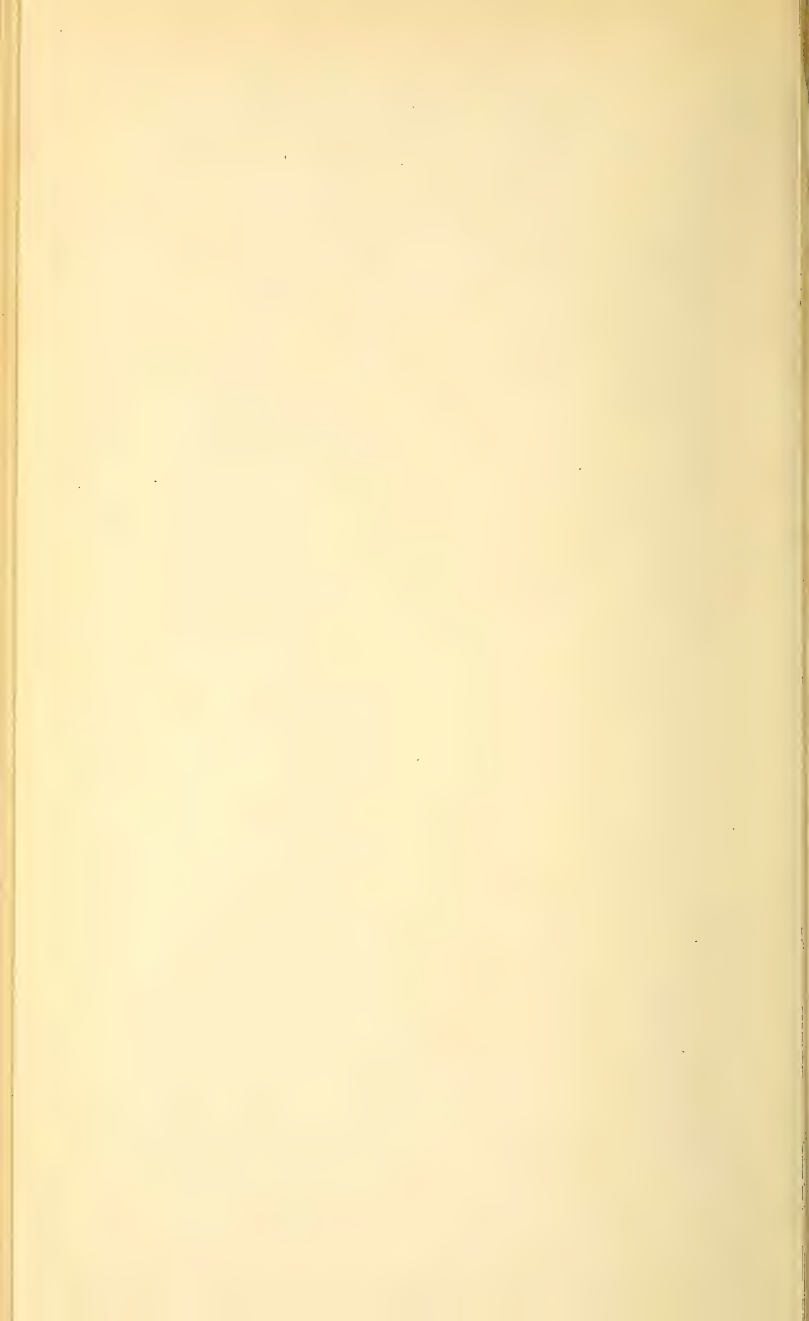
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Mr. Harlan.

Mr. Harlan



U. S. DEPARTMENT OF AGRICULTURE.

BUREAU OF PLANT INDUSTRY—BULLETIN NO. 162.

B. T. GALLOWAY, *Chief of Bureau.*

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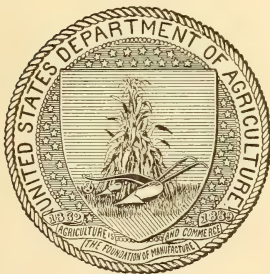
# SEEDS AND PLANTS IMPORTED

DURING THE PERIOD FROM JANUARY 1  
TO MARCH 31, 1909:

INVENTORY No. 18; Nos. 24430 to 25191.

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ISSUED DECEMBER 24, 1909.



WASHINGTON:  
GOVERNMENT PRINTING OFFICE.  
1909.

## BUREAU OF PLANT INDUSTRY.

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### FOREIGN SEED AND PLANT INTRODUCTION.

#### SCIENTIFIC STAFF.

David Fairchild, *Agricultural Explorer in Charge*.

P. H. Dorsett, Albert Mann, George W. Oliver, Walter Van Fleet, and Peter Bisset, *Experts*.

Frank N. Meyer, *Agricultural Explorer*.

H. V. Harlan, H. C. Skeels, and R. A. Young, *Assistants*.

Edward Goucher and P. J. Wester, *Assistant Propagators*.

## LETTER OF TRANSMITTAL.

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U. S. DEPARTMENT OF AGRICULTURE,  
BUREAU OF PLANT INDUSTRY,  
OFFICE OF THE CHIEF,  
*Washington, D. C., September 11, 1909.*

SIR: I have the honor to transmit herewith, and to recommend for publication as Bulletin No. 162 of the series of this Bureau, the accompanying manuscript, entitled "Seeds and Plants Imported during the Period from January 1 to March 31, 1909: Inventory No. 18; Nos. 24430 to 25191."

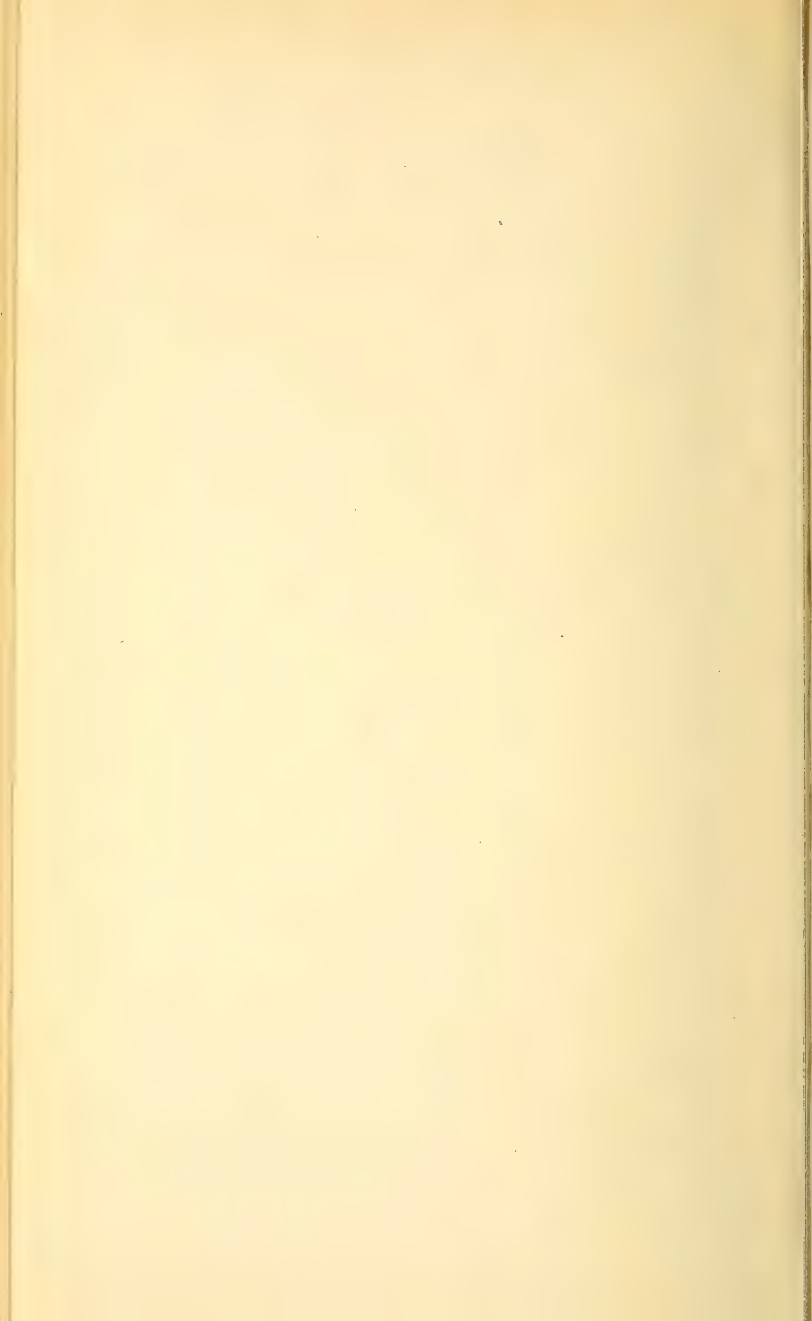
This manuscript has been submitted by the Agricultural Explorer in Charge of Foreign Seed and Plant Introduction with a view to publication.

Respectfully,

B. T. GALLOWAY,  
*Chief of Bureau.*

HON. JAMES WILSON,  
*Secretary of Agriculture.*

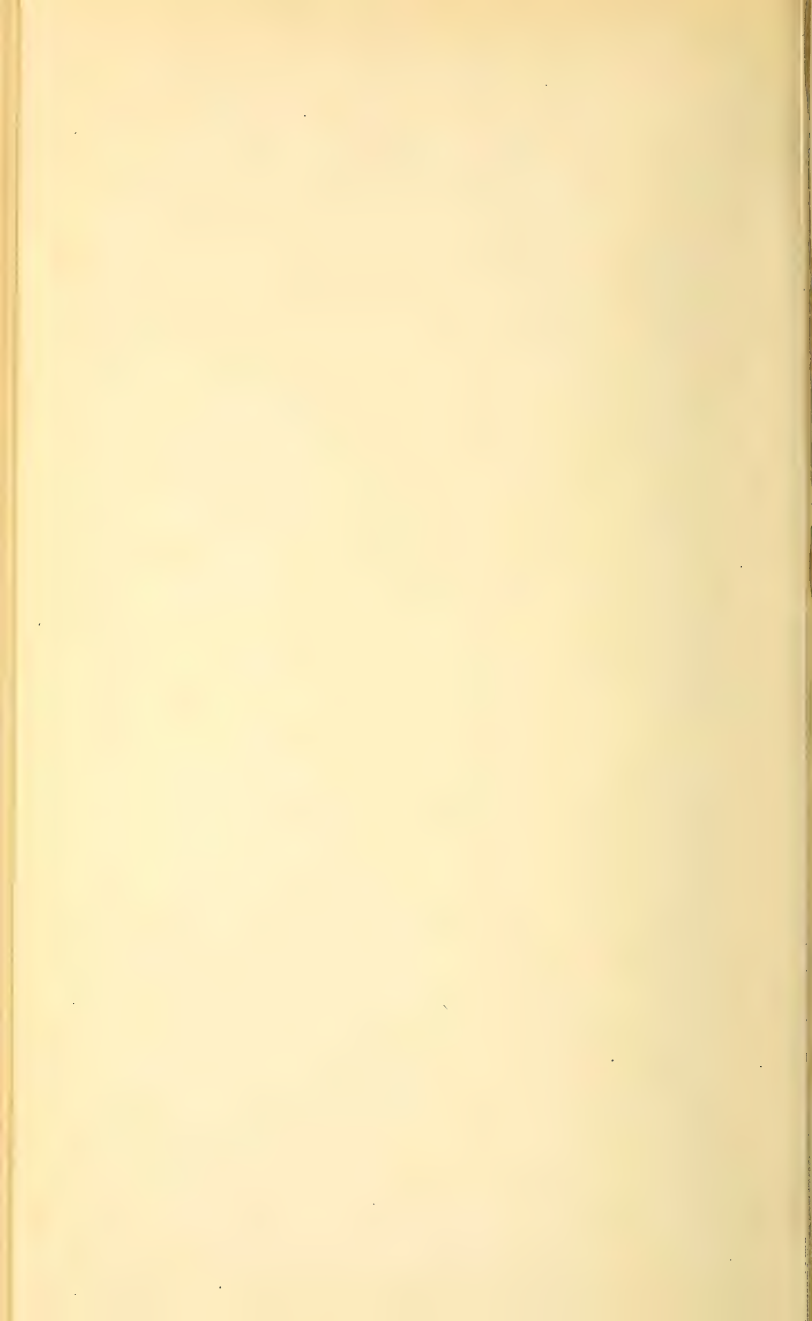




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# SEEDS AND PLANTS IMPORTED DURING THE PERIOD FROM JANUARY 1 TO MARCH 31, 1909: INVENTORY NO. 18; NOS. 24430 TO 25191.

## INTRODUCTORY STATEMENT.

The eighteenth inventory, including 761 numbers, comprises the period between January 1 and March 31, 1909, and contains the collections of only one agricultural explorer, Prof. N. E. Hansen, of South Dakota, whose eight months' trip into central Asia was made primarily to secure sufficiently large quantities of the seed of three wild *Medicagos* to enable extensive experiments to be carried out in the Northwest in testing their hardiness.

These three species, which Professor Hansen believes are going to prove valuable additions to the forage-crop resources of the Northwest, are as follows: No. 24451, *Medicago ruthenica*, from Charonte, Mongolia, an arm of the Gobi Desert, where the temperature drops to the freezing point of mercury at times when there is little snow on the ground and where in summer the temperature goes above 100° F. This species is a wild forage plant growing in the sandy region of eastern Siberia and may be of value either as a cultivated plant like alfalfa or, if allowed to run wild on the ranges, may become a valuable hardy forage legume. No. 24452, *Medicago falcata*, from Obb, in the Tomsk Province, a long-lived legume of the open steppes, is upright enough to be mown by a mowing machine; will withstand extremes of drought and cold, and is so promising in its own home as to have attracted the attention of the Russian agricultural experimenters as worthy of domestication and also as being of distinct value as a wild pasture plant in western Siberia. Professor Hansen emphasizes its value for all regions in this country where the common alfalfa is often winterkilled, but does not maintain that in regions where any of the true alfalfa strains can be grown successfully it is likely to prove superior. No. 24457, *Medicago platycarpa*, from Chylim, in the Tomsk Province, is a wild legume found in timber clearings and along the edges of forests of central Siberia. This is not a drought-resistant form, but perhaps rather a moist-region plant worthy of trial in northern Wisconsin and Minnesota. Owing to the immense value of any plant which may take the place of alfalfa in regions where this remarkable crop can not be grown, these new Siberian alfalfas are receiving the special attention of the forage-

crop experts of the Department of Agriculture. They are the most interesting of more than a hundred and seventy things brought by Professor Hansen from Siberia, though others worthy of mention here are a number of durum wheats; remarkable winter muskmelons (some of them weighing 30 to 40 pounds and capable of keeping all winter, promising possibilities for the Southwest); the Persian clover shaftal or "Shabdar" (No. 24548), now being tried for the irrigated Southwest; and sand binders (Nos. 24555, 24556, 24557, 24558, and 24559) used along the Transcaspian Railway.

Numbers 24759 to 24761 represent the largest importation of bamboo plants ever brought into the country, comprising more than 3,000 good-sized plants of the three timber species that are grown so extensively in Japan—two of them for timber and one also for its edible shoots. These were purchased by an agent from the Japanese farmers near Nagasaki and brought over by the courtesy of the War Department on an army transport. They have made a satisfactory start at Chico, Cal., and will be planted in the South and in California this autumn. An effort will be made to show what a wonderfully beautiful thing a bamboo grove is, and to bring this unique timber material near enough so that our experimenters can study the methods of its utilization in the fresh state.

Of the introductions secured through correspondence, special attention should be called to the following:

Of interest to the fruit growers will be the three Javanese fruits—the Doekoe (No. 24431), the Ramboetan (No. 25163), and the Poelasan (No. 25164)—delicious East Indian fruits that seem to have not yet attracted attention in the West Indies; a South China relative of the orange (*Atalantia bilocularis*) for breeding purposes; the Indian bael fruit (No. 24450), which is prized for sherbets by Occidentals, but esteemed as highly as the orange by the East Indians, and its near relative from the Philippines, *Belou glutinosa* (No. 24591), both of which Mr. Swingle suggests should be used in breeding new types of citrus fruits; the edible passion fruit of Mexico, a much neglected fruit possibility for the Southwest; *Diospyros ebenaster*, the Zapote Prieto of Mexico (No. 24600), a relative of the persimmon; a new fine-flavored mango, with fruit the size of an English walnut, from Tahiti; strains of the Chilean strawberry (Nos. 24654–24656); five varieties of Chilean anonas (Nos. 24661–24665); the Legrellei pomegranate (No. 24825) from Switzerland, an unusually hardy form which matures its fruit in Paris; a collection of valuable pomegranates from Bagdad, Arabia (Nos. 25001–25007); two southern China peaches from Canton (Nos. 24915–24916); the cherry stock used by the Japanese and upon which they bench-graft all their ornamental flowering cherries and which seems not to have been tried for a stock for our fruiting cherries (No.

25087); and an interesting aromatic fruit from East Africa, the Kafir orange (No. 27170).

To those working with cereals and forage crops the following will be of interest: The Japanese rice (No. 24441) which, according to the Hawaii Agricultural Experiment Station, promises to supersede other Japanese types in Hawaii; the Jowar Sholapuri, a new class of Indian durra (No. 24442); a collection of soy beans (Nos. 24672-24690) from India; the Old German Frankish lucern (No. 24767) from near the home of Wendlin Grimm, who originally introduced the remarkably hardy Grimm alfalfa into Minnesota; Chinese grains (Nos. 24845-24850) from an altitude of 11,000 feet in the Yangtze Valley; and an unusual collection of grains from the uplands of Abyssinia.

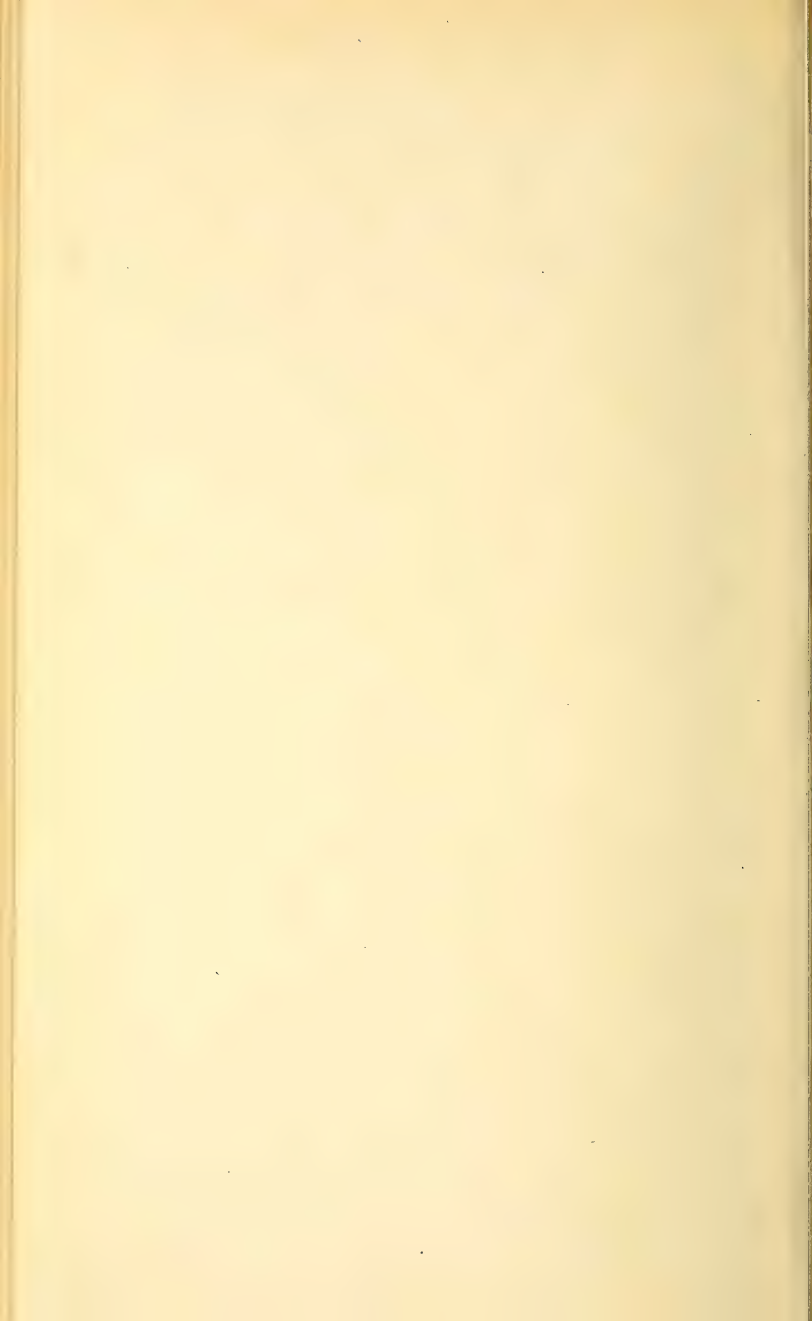
To those interested in the rubber industry, a new East African rubber tree, producing rubber of the "Landolphia kirkii" type, from Mr. Barrett (No. 24637), and the famous virgin rubber tree of Colombia, South America (No. 24640), which yields rubber of the very highest quality and is capable of cultivation, will be worthy of notice.

To those who are in search of new ornamentals and comfort plants, the Chinese pistache (No. 24659) from Shantung, a promising tree for dry regions, resembling somewhat the pepper tree (*Schinus molle*), and the sycamore fig of the north coast of Africa (No. 25094), one of the most beautiful shade trees of the region, are worthy of especial consideration; while the introduction of the "Kiat" tree of Abyssinia will interest those who do not realize that a million or so of people in Arabia and Abyssinia depend upon the narcotic in its leaves quite as much as Americans do on tobacco.

DAVID FAIRCHILD,  
*Agricultural Explorer in Charge.*

OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION,  
*Washington, D. C., September 10, 1909.*





# INVENTORY.

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## 24430. MEDICAGO SATIVA L.

**Alfalfa.**

From Arequipa, Peru. Purchased from Borger & Guzman, through Mr. C. V. Piper. Received January 2, 1909.

*Peruvian.*

## 24431 to 24433.

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Department of Agriculture. Received January 5, 1909.

The following seeds:

### 24431. LANSIUM DOMESTICUM Jack.

**Doekoe.**

"The doekoe is one of the most refreshing fruits of the Dutch East Indies, and is eaten in immense quantities both by the native Javanese and the Dutch. It is about the size of a French prune, of a straw color, and the leathery rind, which is easily peeled off, exposes a pulp of a peculiar, almost waxy, texture. The several segments into which this pulp divides contain each a large seed, which is intensely bitter to the taste, so that care is always exercised in eating the fruit not to bite into the seed. The flavor is mildly subacid and decidedly refreshing. While not to be ranked with the mangosteen, the doekoe, in my opinion, is worthy of serious consideration as a new fruit for shipping purposes." (*David Fairchild.*)

*Distribution.*—Widely cultivated in India, and probably a native of the Malay Archipelago; also reported from the Philippines.

### 24432. GARCINIA TINCTORIA (DC.) W. F. Wight.

*Distribution.*—A native of the mountains of India, extending from the Himalayas south to the Andaman Islands.

### 24433. ATALANTIA BILOCULARIS (Roxb.) Wall. (LIMONIA BILOCULARIS Roxb.)

A small shrub, armed with solitary, long, sharp spines. The leaves are alternate, elliptical in outline, wavy margined, and firm and glossy. The small, pure white flowers are borne in axillary clusters. The black berries are about the size and shape of a pea and are succulent.

*Distribution.*—A native of the southeastern part of China and of the islands of Hainan and Formosa.

## 24434. PANICUM MUTICUM Forsk.

**Para grass.**

From Tampico, Mexico, whence it was secured by Mr. John Kennedy, of Sarita, Tex., who presented the same to this Department. Numbered for convenience in recording distribution, January 5, 1909.

"Distinct from ordinary strain of Para grass. More vigorous and recovers more quickly after cutting, and decidedly superior." (*S. M. Tracy.*)

**24437. ASPARAGUS FILICINUS Hamil.**

From Nocera Inferiore, Italy. Presented by Mr. Willy Müller. Received January 5, 1909.

"This species was originally collected by Buchanan-Hamilton in Nepaul, but has since been found in many localities extending from Burma to the western Himalaya, and thence northward to Mongolia. It is erect in habit and attains a height of nearly 4 feet, having horizontally spreading branches. The slender, flattened phylloclades are about one-third of an inch long and are borne in clusters of about five. The greenish white flowers are seated on slender pedicels about twice as long as the phylloclades." (*Gardener's Chronicle*, August 15, 1908.)

**24438 to 24440.**

From Kingston, Jamaica. Received through Mr. William Harris, superintendent of public gardens, Department of Agriculture, Hope Gardens, January 5, 1909.

**24438. ZINZIBER OFFICINALE Rosc.****Ginger.**

Rhizomes. Procured for Dr. R. H. True's experiments at Orange City, Fla.

**24439. PERSEA GRATISSIMA Gaertn. f.****Avocado.**

Seeds.

**24440. INDIGOFERA ANIL L.**

"Seeds of a leguminous shrub reaching a height of several feet and distinguished from the common indigo (*Indigofera tinctoria*) by having short, compressed, sickle-shaped pods and by its capability of being propagated by means of cuttings. Indigenous in Tropical America, and occurring from the Carolinas to Brazil. Formerly widely cultivated in both the eastern and the western hemispheres, and together with *I. tinctoria* an important source of indigo. Now, too, found in waste places from North Carolina to Florida and Louisiana. It is no longer cultivated commercially in the United States, since the introduction of substitutes has rendered indigo production unprofitable." (*W. W. Stockberger*.)

**24441. ORYZA SATIVA L.****Rice.**

From Honolulu, Hawaii. Presented by Mr. F. G. Krauss, in charge of rice investigations, Hawaii Experiment Station. Received January 6, 1909.

"Variety No. 164, 34 to 40 inches tall. A strong, erect grower, tillers well, and bears heavily a kernel of good quality. Mature in 120 days. One of the best Japan rices grown at the Hawaii station. We give preference to this variety, which promises to supersede other Japan types in Hawaii." (*Krauss*.)

**24442 to 24447.**

From Sholapur, India. Presented by M. A. Peacock, esq., treasurer, the American Marathi Mission. Received December 26, 1908.

The following seeds, native names, and notes by Mr. Peacock:

**24442 and 24443. ANDROPOGON SORGHUM (L.) Brot.****Durra.**

**24442.** *Jowar Sholapuri.* Stalks often grow 10 feet tall; heads mammoth.

"White. This is a medium-sized head, rather compact, with a rather small, flattened, white seed inclosed in transversely wrinkled, mostly pale, glumes; florets awned. Apparently represents a group not heretofore introduced." (*Carleton R. Ball*.)

**24442 to 24447—Continued.****24442 and 24443—Continued.****24443.** *Jowar.* Double variety.

"White. A very small head, probably dwarfed by thick sowing and adverse conditions; ovate, compact, two seeds in each spikelet; seeds small, white; glumes pale; florets awned. Belongs to group 8 of India sorghums represented by S. P. I. No. 14603, etc." (*Carleton R. Ball.*)

"The *Jowar* furnishes an excellent fodder in its stalks and the grain is highly nutritious. At certain times of the year it furnishes the chief grain for the food of India's millions in the Deccan." (*Peacock.*)

**24444 to 24447.** *Pennisetum americanum* (L.) Schum. **Pearl millet.****24444.** *Common Country Bazra.*

"There seem to be several widely different strains included in this lot." (*H. N. Vinall.*)

**24445.** *Pure African Bazra.***24446.** Cross-breeding *Common Country* and *African Bazra.***24447.** *Bearded Bazra.*

"The presence of numerous bristles probably accounts for the fact that it is less troubled by attacks from birds." (*H. N. Vinall.*)

"The *Bazra* is more of a food grain and is scarcely ever fed to animals on account of its expense. Both these grains grow on the poorly cultivated semiarid plains of the Deccan." (*Peacock.*)

**24448 and 24449.** *Phaseolus coccineus* L. **Scarlet runner bean.**

From Italy. Presented by Mr. Haven Metcalf, pathologist in charge, Laboratory of Forest Pathology, Department of Agriculture. Received December 24, 1908.

**24448.** "Obtained at the Tenute Consorti Sullam in Portotolle e Taglia Di Po, in the province of Rovigo, Italy. These beans were called by the grower, Dr. Angelo Sullam, '*Faggioli Elefanti di Prussia.*' He has been growing them for some years on his plantation, which is largely devoted to rice, and where I saw these beans growing in rather sandy land, with a water table not more than 6 or 8 inches under the surface. According to Doctor Sullam, this bean grows readily on wet land, although it will not grow directly in water. It twines or runs and flowers freely and continuously. I ate the beans cooked in the form of salad and found them very palatable, with more the flavor of a white bean than our ordinary Lima or colored beans. It occurs to me that this may be valuable on wet land; it is said not to grow well at all on dry land. As I did not see any growing on dry land, I can not bear witness to this. Doctor Sullam originally obtained his seed from western Russia." (*Metcalf.*)

**24449.** "Obtained near Ferrara. The beans were there being grown under the name of '*Faggioli Elefanti da Istria.*' So far as I could see these were exactly the same bean as the first sample (S. P. I. No. 24448). The seed in this case was said to have been obtained from Istria." (*Metcalf.*)

**24450.** *Belou marmelos* (L.) W. F. Wight.**Bael tree.**

From Lahore, Punjab, India. Presented by Mr. W. R. Mustoe, superintendent, Archaeological Gardens. Received January 8, 1909.

"Seed of the large-fruited variety of *Aegle marmelos* (*Belou marmelos*), known to Europeans as bael fruit. It has three vernacular names, i. e., bill, bel, and bael. It is

**24450—Continued.**

a handsome tree, with dark-green, shining leaves which have a resinous odor; it is common in the greater part of India, growing up to 4,000 feet; when cultivated is a middle-sized tree of 35 feet, but when wild is a scrubby tree.

"The leaves, roots, bark, and fruit are used in native medicines and the last named in European medicines also, and from the flowers a scent water is distilled.

"Bael is cultivated for its fruits and as a sacred tree, being thought a lot of for worship of the god Shiva, and is one of the few woods prescribed by the Hindoo scriptures for sacrificial fires. The wood is close grained, tough, and strong, but often splits in seasoning.

"The leaves, bark, and roots are used as a febrifuge and the first mentioned is also lopped for cattle fodder.

"The unripe fruit, either boiled or roasted, is used as a specific for diarrhea and dysentery. When ripe it is very much like an orange in shape, color, and size, but has a hard shell, which is sometimes made into snuffboxes; the pulp of the fruit is a laxative and when mixed with milk or soda water, or both, makes a healthy, cooling, and agreeable sherbet. To make this they take the pulp of the fruit out of the shell and put it into a little water, then pass it through a strainer, and put it into a glass of milk or soda water and sugar to taste. The pulp is also used to strengthen mortar for building purposes and the mucus with which the cells are filled is used as a glue; also used with water paints to add to their strength and brilliancy. This fruit is greatly valued for eating by the natives, but can scarcely be looked upon as palatable to the white man except as a sherbet and for its medicinal properties. The tree comes true to seed and is not grafted. It might be tried in several districts, as it grows equally as well up here as in Calcutta, where the air is moist and hot all the year round, and here it is very dry and hot in the summer, with a temperature of 112° to 120° F. in the shade, and in the winter with sometimes 12 degrees of frost at night; but the bael always looks healthy and green, no matter what the weather is. It is leafless for about one month only, January or February, and its one year's fruit is ripe at about the same time that it is flowering for the next year's fruit.

"This is really a valuable tree both from a decorative and economic point of view, and I do not consider it gets the attention in India that it should." (*Mustoe.*) For further description and previous importation, see No. 22957.

Introduced at Mr. Walter T. Swingle's suggestion for use in breeding new types of citrus fruits.

**24451 to 24575.**

From northern and central Asia. Received through Prof. N. E. Hansen, of the Agricultural Experiment Station, Brookings, S. Dak., while traveling as an agricultural explorer for the Department of Agriculture, December 3, 1908.

The following seeds:

**24451. MEDICAGO RUTHENICA (L.) Trautv.**

"(No. 59.) From same source as No. 58 (S. P. I. No. 24456). This is a favorite wild forage for the stock kept by the Mongolian nomads of this region, should be tested in the driest, coldest parts of the Northwest, especially where the most extreme cold comes at times without snow on the ground. For a common name Gobi Desert, Mongolian, or East Siberian alfalfa will do." (*Hansen.*)

*Distribution.*—A native of stony and sandy regions of Siberia, extending east to the region of Lake Baikal, and into China.

## 24451 to 24575—Continued.

24452 to 24456. *MEDICAGO FALCATA* L.

**24452.** "(No. 66.) The main lot of western Siberian alfalfa gathered growing wild on the open steppe, with the help of 200 peasants, a few miles from Obb, Tomsk Province, where the Obi River crosses the Siberian railway. One of the most characteristic and dominant plants of the open steppes in Tomsk Province, western Siberia. The falcate or sickle-shaped pods of this alfalfa give it the specific name *falcata*. A long-lived perennial, with strong, deep-growing taproots, holding its own with other native plants in dense sod and enduring pasturing. Highly regarded by the peasants as a pasture plant and for hay. Cattle, horses, and sheep are all fond of the plant. Worthy of thorough trial in all regions where the common alfalfa suffers from winterkilling. Where common alfalfa, which is native of a much milder climate than that of our Prairie Northwest, is perfectly hardy, I would suggest 'Let well enough alone.' However, it will be well to remember that this plant, while primarily intended for the severest regions, endures more pasturing than common alfalfa, and may be found valuable to introduce into native pastures as a wild plant farther south. Plant breeders should be quick to isolate the elementary species in *Medicago falcata* and to remember that the many different lots of *Medicago falcata* gathered in my second and third trips to Siberia should be carefully kept separate. The most southern lots should go more into the Central West, the northern lots into the most northern sections. The species varies in its native haunts and should be regarded as consisting of many elementary species, differing widely in important characteristics. The yellow flowers are attractive and much visited by bees." (*Hansen.*)

**24453.** "(No. 90.) As found wild on open steppe at Omsk, Akmolinsk Province, western Siberia. See No. 66 (S. P. I. No. 24452)." (*Hansen.*)

**24454.** "(No. 86.) See No. 66 (S. P. I. No. 24452). This lot is from north of Irkutsk, near western shore of Lake Baikal, eastern Siberia, and extending to a hundred miles north, among the Buriats, a Mongolian tribe. This region is moister in climate than farther east on the open steppe, so may be found better adapted for regions like northern Maine, Minnesota, and Wisconsin." (*Hansen.*)

**24455.** "(No. 28.) One of the three yellow-flowered Siberian alfalfas. This seed was gathered on the east bank of the Irtysh River about ten miles north of Semipalatinsk, in the province of the same name, western Siberia. Plants with stems 5 feet 8 inches long were found. Of erect habit. Both as growing in the wild pasture and as hay the plant is well liked by stock. The plant is also much visited by bees." (*Hansen.*)

**24456.** "(No. 58.) Although but a small quantity of seed, this number should receive special attention, as it is from the farthest point east where I found this Siberian alfalfa. Seed gathered in almost pure sand at station Charonte, in an arm of the Desert Gobi, a few miles from Chinese territory on the Siberian railway. This is in the Mongolian part of Manchuria, Manchuria proper not beginning till after crossing the Chinese mountains. This region is marked by great extremes of heat and cold, and especially by the fact that often cold sufficient to freeze mercury is experienced with no snow on the ground." (*Hansen.*)

*Distribution.*—A native of Europe and Asia, extending from Sweden to China.



## 24451 to 24575—Continued.

24457. *MEDICAGO PLATYCARPA* (L.) Trautv.

“(No. 73.) A strong-growing perennial yellow-flowered alfalfa found wild in timber clearings and along edges of the forests in central Siberia. The name *platycarpa* refers to the large flat pod. This alfalfa should be thoroughly tested in regions like northern Wisconsin and Minnesota. Will endure extreme cold, but probably not severe wind sweep as well as *Medicago falcata* and *Medicago ruthenica*. This lot was gathered near Chylim, between Obb and Omsk, in Tomsk Province, western Siberia. All the three Siberian alfalfas are yellow flowered.” (Hansen.)

*Distribution.*—Found throughout Siberia, extending east as far as Lake Baikal.

24458 to 24460. *TRIFOLIUM LUPINASTER* L.

24458. “(No. 94.) As found native at Chita, Transbaikai region, on Siberian railway. See No. 68 (S. P. I. No. 24817).” (Hansen.)

24459. “(No. 92.) As found native at Chita, Transbaikai region, on Siberian railway. See No. 68 (S. P. I. No. 24817).” (Hansen.)

24460. “(No. 78.) This lot was gathered on the open steppe just north of the Altai Mountain range between Biisk and Beloglasowo, southern Tomsk Province, western Siberia. Worthy of introduction into the western ranges as a wild plant, and for trial as a cultivated clover wherever trouble is experienced from the winterkilling of the common red clover. See No. 68 (S. P. I. No. 24817).” (Hansen.)

*Distribution.*—A native of Asia, extending from central Russia through Siberia, Mongolia, and Manchuria; also in Japan.

24461. *TRIFOLIUM MEDIUM* Huds.

“(No. 69.) Mammoth red clover as found wild near Obb, Tomsk Province, at the intersection of the Siberian railway and the Obi River. All the Siberian clovers should receive careful attention, as they may be found especially adapted to our Prairie Northwest where trouble is experienced from the winter-killing of the common red clover.” (Hansen.)

*Distribution.*—A native of open woods and fields in northern and central Europe and across Asia to the region of Lake Baikal.

24462. *VICIA CRACCA* L.

“(No. 67.) A vetch gathered growing wild on the open steppe near Obb, Tomsk Province, western Siberia, where the Obi River crosses the Siberian railway. Common on the open steppes. Not cultivated here as yet, as the country is too thinly settled.” (Hansen.)

24463. *VICIA CRACCA* L.

“(No. 88.) As found wild on open steppe at Omsk, Akmolinsk Province, western Siberia.” (Hansen.)

24464. *VICIA AMOENA* Fisch. (?)

“(No. 64.) A wild vetch gathered at village Verk-Tchitinskaya, 20 versts north of Chita, Transbaikai region, Siberian railway.” (Hansen.)

*Distribution.*—A native of central Siberia, extending from the Ural Mountains to the region of Lake Baikal.

24465. *VICIA TENUIFOLIA* Roth.

“(No. 13.) A native vetch on open steppe at Beloglasowo, between Biisk and Smeinogorsk, southern Tomsk Province, western Siberia.” (Hansen.)

*Distribution.*—A native of Europe and Asia, extending from central Russia to Lake Baikal.

## 24451 to 24575—Continued.

24466 to 24468. *AGROPYRON IMBRICATUM* (Bieb.) R. & S.

24466. "(No. 63.) A grass of very wide distribution in northern Asia and European Russia. Highly recommended as one of the best grasses in the Volga River region of eastern European Russia, where it was brought into culture by the experiment station at Waluiki near Rowno, south of Saratow. In my Russian trip in 1897 I saw the beginnings of this work by Mr. Bogdan, at that time director of the station. The present sample was gathered wild by myself and helper in the sand semidesert region at the station Manchuria, the first station in Chinese territory going east on the Siberian railway." (*Hansen.*)

24467. "(No. 87.) See No. 63 (S. P. I. No. 24466). This lot was collected at Charonte, a few miles into Chinese territory, in the Mongolian part of northwestern Manchuria, where an arm of the Gobi Desert is crossed by the Siberian railway." (*Hansen.*)

24468. "(No. 91.) As found native at Chita, Transbaikial region, on Siberian railway. See No. 63 (S. P. I. No. 24466). A valuable grass on dry steppes." (*Hansen.*)

*Distribution.*—A native of Europe and Asia, being found from Russia to Spain and east to Siberia and Afghanistan.

24469 and 24470. *ELYMUS SIBIRICUS* L.

24469. "(No. 12.) A common grass of dry steppes at Beloglasowo, between Biisk and Smeinogorsk, southern Tomsk Province, western Siberia. For further study as to value by agrostologists only; not for distribution." (*Hansen.*)

24470. "(No. 82.) A native dry steppe grass gathered between Beloglasowo and Smeinogorsk, north of Altai Mountain range, Tomsk Province, western Siberia. Sample for agrostologists only." (*Hansen.*)

*Distribution.*—A native of Siberia, extending from the Ural Mountains to the region of Lake Baikal.

24471 and 24472. *LATHYRUS PRATENSIS* L.

24471. "(No. 14.) A wild pea common on the open steppes north of Altai Mountain range in the southern part of Tomsk Province. Seed gathered near Beloglasowo, between Biisk and Smeinogorsk. Its value as a field pea for regions like western Nebraska and Dakota should be tested." (*Hansen.*)

24472. "(No. 89.) A wild field pea from open steppe at Omsk, Akmolinsk Province, western Siberia." (*Hansen.*)

*Distribution.*—A native of Europe, Asia, and northern Africa, extending to the Pacific and from the Mediterranean to the Arctic Circle.

24473. *ELYMUS ARENARIUS* L.

"(No. 26.) A coarse reed-like grass common in dry sand deserts, about 30 miles south of Semipalatinsk, in the province of the same name, western Siberia. A tall plant of striking appearance, not eaten by stock, but may be useful as a sand binder in sections with great extremes of cold and heat." (*Hansen.*)

*Distribution.*—Found on sandy shores throughout the Northern Hemisphere.

## 24474.

(No. 60.) A mixture of *Elymus* sp. and *Koeleria cristata* (L.) Pers., the latter predominating.

## 24451 to 24575—Continued.

## 24475. AGROPYRON CANINUM (L.) Beauv. (?)

“(No. 61.) A native grass common in timber and timber clearings near Chita, Transbaikal region, eastern Siberia. Forage value undetermined. Sometimes called ‘*ostretz*,’ but this is applied properly to *A. pungens*.” (Hansen.)

## 24476. VICIA UNIJUGA A. Braun.

“(No. 65.) A native legume common in woods near Chita, Transbaikal region, Siberian railway. Food value undetermined, but *Orobis luteus* L., its relative, is eaten by stock and the young shoots used for food by the Chinese.” (Hansen.)

*Distribution*.—A native of Asia, occurring throughout Siberia, and in Manchuria and China; also found in Japan.

## 24477. AVENA SATIVA L.

Oat.

“(No. 79.) Oats from the dry Belagatch steppe near Semipalatinsk, in province of same name, western Siberia. A region of great extremes of heat, cold, and drought.” (Hansen.)

## 24478. ANDROPOGON SORGHUM (L.) Brot.

Kowliang.

“(No. 85.) Variety ‘*Gaolan*’ from the Harbin district, bought in Chinese bazaar at Station Manchuria, the first station in Chinese territory going east on the Siberian railway. The favorite variety in northern Manchuria.” (Hansen.)

“Brown kowliang from Manchuria. One of the common forms of the region.” (Carleton R. Ball.)

## 24479. GLYCYRRHIZA URALENSIS Fisch.

“(No. 27.) Seed of wild licorice gathered on the banks of a tributary of the Irtysh River, about 30 miles south of Semipalatinsk, in province of same name, western Siberia. Its value for cultivation not determined, but the region where this seed was gathered is subject to great extremes of cold and heat.” (Hansen.)

## 24480. LAVATERA THURINGIACA L.

“(No. 83.) A tall mallow-like dry-steppe flower collected between Biisk and Semipalatinsk, north of Altai Mountain range, Tomsk Province, western Siberia. Plant 4 to 6 feet in height, well branched; flowers mostly bright pink.” (Hansen.)

*Distribution*.—A native of Europe and Asia, extending from central and southern Russia to the eastern part of Siberia.

## 24481. TRITICUM DURUM Desf.

Wheat.

“(No. 81.) This lot is from the dry Belagatch steppe near Semipalatinsk, in province of same name, western Siberia.” (Hansen.)

## 24482. TRIFOLIUM LUPINASTER L.

“(No. 84.) See Nos. 68 and 78 (S. P. I. Nos. 24817 and 24460). This 5-leaved clover, which ranges northward to the Arctic Circle in Siberia, is worthy of trial at the far north. The present lot is from Chailar, in northwestern Manchuria, on the Siberian railway.” (Hansen.) See No. 24458 for distribution of this species.

## 24483. TRITICUM DURUM Desf.

Wheat.

“(No. 117.) ‘*Ak-bugdai*.’ ‘*Ak*’ means white, ‘*bugdai*’ wheat. A wheat from Tashkend, northern Turkestan. Very productive at Tashkend.” (Hansen.)

**24451 to 24575—Continued.****24484. TRITICUM AESTIVUM L.****Wheat.**

“(No. 118.) ‘*Turbat*,’ meaning land or country wheat, from 20 miles north of Tashkend, Turkestan. Turbat is the name of a place.” (*Hansen*.)

**24485. TRITICUM DURUM Desf.****Wheat.**

“(No. 129.) ‘*Kara-bugdai*,’ meaning black wheat, from Tashkend, Turkestan. May be sown either as a winter wheat, from September to December, at Tashkend; or as a spring wheat, in February or March, but not later. This is on northern border of cotton belt. Usually sown as a spring wheat.” (*Hansen*.)

**24486. TRITICUM AESTIVUM L.****Wheat.**

“(No. 131.) Native wheat from Old Chardchui, Turkestan, a very dry region.” (*Hansen*.)

**24487. TRITICUM DURUM Desf.****Wheat.**

“(No. 134.) ‘*Sary-magis*,’ a native wheat from Tashkend, Turkestan. ‘*Sary*’ means yellow. All the Turkestan wheats deserve special attention as a drought-resistant race.” (*Hansen*.)

**24488. TRITICUM DURUM Desf.****Wheat.**

“(No. 135.) ‘*Caucasian*’ wheat from Tashkend, Turkestan.” (*Hansen*.)

**24489. TRITICUM sp.****Wheat.**

“(No. 137.) ‘*Kizyl-bugdai*,’ meaning red wheat, from Tashkend, Turkestan.” (*Hansen*.)

**24490. TRITICUM DURUM Desf.****Wheat.**

“(No. 138.) ‘*Ak-bugdai*,’ meaning white wheat, from Tashkend, Turkestan.” (*Hansen*.)

**24491. TRITICUM DURUM Desf.****Wheat.**

“(No. 139.) ‘*Sary-bugdai*,’ meaning yellow wheat, from Tashkend, Turkestan.” (*Hansen*.)

**24492. TRITICUM DURUM Desf.****Wheat.**

“(No. 140.) ‘*Kara Kiltshik*’ wheat from Tashkend, Turkestan. ‘*Kara*’ means black.” (*Hansen*.)

**24493. TRITICUM DURUM Desf.****Wheat.**

“(No. 234.) Seed of native Turcoman ‘*Red Mountain*’ wheat, raised on dry land without irrigation at Askabad, Turkestan, and found especially valuable at the Askabad Experiment Station.” (*Hansen*.)

**24494 to 24496. CUCUMIS MELO L.****Muskmelon.**

**24494.** “(No. 119.) Winter muskmelon. ‘*Ak-bek-shek*,’ meaning white melon. From Chardchui, Turkestan.” (*Hansen*.)

**24495.** “(No. 120.) ‘*Gulakcha*,’ a first early muskmelon from Chardchui, Turkestan.” (*Hansen*.)

**24496.** “(No. 122.) Winter muskmelon. ‘*Kerkinsche*,’ from Chardchui, Turkestan. Diameter 29 and 15 cm.” (*Hansen*.)

**24497. HORDEUM VULGARE L.****Barley.**

“(No. 123.) Native winter barley from Bairamalee, near Merv, eastern Turkestan. Drought resistant.” (*Hansen*.)

## 24451 to 24575—Continued.

## 24498 to 24540. CUCUMIS MELO L.

## Muskmelon.

24498. "(No. 124.) Winter muskmelon. 'Katschalinsky,' from Chardchui, Turkestan." (Hansen.)

24499. "(No. 126.) Winter muskmelon. 'Khansky,' from Chardchui, Turkestan. Diameter 38 and 22 cm." (Hansen.)

24500. "(No. 127.) Winter muskmelon, from Chardchui, Turkestan. Diameter 32 and 20 cm." (Hansen.)

24501. "(No. 128.) Winter muskmelon, from Chardchui, Turkestan. Diameter 23 and 22 cm." (Hansen.)

24502 to 24537. "(Nos. 150 to 185.) Native muskmelons of Turkestan, mostly winter varieties. No. 167 (S. P. I. No. 24519) is the largest lot of seed, from melons I bought in December, 1908, in the bazaar at Chardchui, Turkestan. In my opinion it is worthy of a most earnest effort on the part of a melon specialist to get these winter muskmelons of Turkestan introduced into the driest and hottest regions of our Southwest and the driest parts of our cotton belt. Some of the melons weigh from 30 to 40 pounds, with thick white flesh, and are extremely sweet. In Turkestan the late varieties are hung in reed-grass nets or slings from the ceilings in the native houses of sun-baked clay, ready for use all winter as needed. They are one of the main staples of the native diet. The melons are also pickled somewhat like watermelon rinds in America, but much superior in quality. Much of the muskmelon seed I brought from my first trip to Turkestan in 1907, and some in the spring of 1908, was lost from being tested too far north, in response to the great demand for the seed. Some melons of this first importation have done well in the Southwest and have since appeared under other names, by which the credit of introduction is lost. With this fresh lot of seed it is hoped that the Turkestan muskmelons, the largest and best in the world, will receive a thorough trial in the hottest, driest regions of the Southwest. None of them should go north of the cotton belt, unless it be some of the smallest and earliest varieties. A long period of hot, dry weather is needed to bring out the quality. Some of the varieties endure long-distance transportation, so that in these melons appears an inviting field for southern enterprise. Some of the varieties may prove too sweet for our tastes. The breeder of melons may find them useful in hybridizing. Southern California, New Mexico, Arizona, and southern Texas should receive the seed at first; later the range may extend farther northeast as the seed becomes more abundant. I can not insist too strongly on the necessity of giving these melons a long, hot, dry season for their best development." (Hansen.)

24538. "(No. 233.) Seed saved from three large, white muskmelons bought at Kagan or New Bokhara, Turkestan. Fruit oval, 12 to 15 inches in long diameter, clear, bright yellow; flesh white, very sweet. See Nos. 150 to 185 (S. P. I. Nos. 24502 to 24537)." (Hansen.)

24539. "(No. 236.) An oval, brownish yellow winter muskmelon with sweet, green flesh, 8 to 10 inches in length. Grown near Merv, Turkestan. In good condition December 17, 1908." (Hansen.)

24540. "(No. 244.) Seed of winter muskmelon saved from melons bought at Chardchui, Turkestan, December, 1908." (Hansen.)



## 24451 to 24575—Continued.

24541. *Gossypium hirsutum* L.

Cotton.

"(No. 121.) Sample of Upland cotton originally from the United States, but cultivated at least fifteen years on northern limits of cotton belt in Turkestan, about 100 versts north of Tashkend." (*Hansen.*)

24542. *Gossypium herbaceum* L.

Cotton.

"(No. 143.) Sample of the local native Bokhara cotton of Tashkend, Turkestan, on the northern limits of cotton culture. I took occasion to study the cotton industry while in Turkestan and found the opinion held by many that the introduction of American cotton seed in Turkestan was not an unmixed blessing. While American cotton is greatly superior to the native Bokhara type for the manufacturer, the American varieties were somewhat inferior in resistance to untimely frosts and were later in season. If this proves true, as a rule, it opens up an interesting field for cotton breeders in hybridizing the American and Turkestan cottons, if that is possible. For Turkestan it would help maintain culture where it is at present in a precarious condition, because of recent great failures from frosts on the northern limits of cotton culture; in America it might aid in the boll-weevil work and in forcing cotton culture a few miles farther north than at present." (*Hansen.*)

24543. *Gossypium indicum* Lam.

Cotton.

"(No. 144.) '*Malla huza*' from Tashkend, Turkestan. '*Malla*' means yellow; '*huza*,' cotton. This is the native cotton used for '*Nah-mazh*,' or Mohammedan prayer rugs and other holy purposes; not generally sold, but is used mainly for presents. Every native Sart cotton grower raises a little for his own use. This native Turkestan may vary in some particular from the other nankeen or yellow cottons grown elsewhere." (*Hansen.*)

24544. *Gossypium hirsutum* L.

Cotton.

"(No. 147.) Native '*Kara chigis*' cotton from Tashkend, Turkestan. '*Kara*' means black; '*chigis*,' seed. 'Somewhat like *Peterkin*, but at least two weeks earlier,' is the experience with it at the experiment station, Turkestan." (*Hansen.*)

24545. *Gossypium hirsutum* L.

Cotton.

"(No. 149.) '*Tashkend Upland*' cotton, originally from the United States, but grown for many years at Tashkend, Turkestan. The name has changed. Said to be an early cotton." (*Hansen.*)

24546. *Gossypium herbaceum* L.

Cotton.

"(No. 187.) Native Bokhara cotton as raised at Tashkend, Turkestan. See No. 143 (S. P. I. No. 24542)." (*Hansen.*)

24547. *Gossypium herbaceum* L.

Cotton.

"(No. 189.) Another sample of '*Malla huza*,' the native yellow or holy cotton of central Asia, as grown at Tashkend, Turkestan. See No. 144 (S. P. I. No. 24543)." (*Hansen.*)

24548 to 24550. *Trifolium suaveolens* Willd.

Shaftal.

24548. "(No. 125.) The main lot of Persian clover from Meshed, northeastern Persia, and grown one year at Tashkend, Turkestan. *Shabdar* is the Persian name; as grown in India it is called shaftal. An annual plant of extremely vigorous growth. In Persia and Afghanistan it is cut two or three times during the season. Flowers small, bright pink, very fragrant, much visited by bees. Adapted for the dry part of the cotton belt and for the driest regions of our Southwest. This cultivated form is decidedly stronger in growth than that occurring wild farther west into Europe and northern Africa." (*Hansen.*)



## 24451 to 24575—Continued.

## 24548 to 24550—Continued.

**24549.** "(No. 194.) From the original lot of Persian seed received at Tashkend, Turkestan, from Meshed, northeastern Persia. See No. 195 (S. P. I. No. 24550)." (*Hansen.*)

**24550.** "(No. 195.) Shabdar from Meshed, northeastern Persia, raised one year at experimental station, Golodnaya or Hunger steppe, Turkestan, between Tashkend and Samarkand." (*Hansen.*)

"Previous importations of shaftal by the Bureau of Plant Industry (S. P. I. Nos. 19506 and 19507, received December 10, 1906) are yielding promising hay crops in the Southwest. The present numbers are of interest, as they extend considerably the range from which seed has been secured. Meshed lies at an altitude of about 3,000 feet, while the upper Kuram valley, the center of seed production for northwestern India, where this is the only clover grown, has an altitude of nearly 5,000 feet." (*Charles J. Brand.*)

*Distribution.*—An annual clover, found in Persia, in the region of the Caspian Sea, and east to India.

**24551. ORYZA SATIVA L.****Rice.**

"(No. 130.) A very early swamp, white rice, a Kirghiz Tartar variety, from Tashkend, Turkestan. Worthy of attention by rice breeders and may prove useful owing to its earliness." (*Hansen.*)

**24552. ORYZA SATIVA L.****Rice.**

"(No. 148.) Dry-land rice from Tashkend, Turkestan." (*Hansen.*)

**24553. ANDROPOGON SORGHUM (L.) Brot.****Durra.**

"(No. 152.) '*Ak-zhu-gah-rah*,' a native variety from Old Chardchui, Turkestan. This is extensively cultivated as a cereal in the driest regions of Turkestan, being better adapted to droughty conditions than maize." (*Hansen.*)

"'*Dzhugara*,' the common white durra of Turkestan. Extensively grown for human food." (*Carleton R. Ball.*)

**24554. ANDROPOGON SORGHUM (L.) Brot.****Durra.**

"(No. 192.) A red-seeded variety grown by the Turcomen at Bairamalee, near Merv, Turkestan." (*Hansen.*)

"Brown durra. Never before introduced from Turkestan. A few seeds were found mixed in S. P. I. No. 18389, white durra, from Bassorah, Arabia. Similar forms are found along the northern edge of the Sahara. Very similar to our domestic brown durra." (*Carleton R. Ball.*)

**24555. HALOXYLON AMMODENDRON (C. A. Meyer) Bunge.**

"(No. 133.) One of the best native trees or arborescent shrubs of the sand deserts of Turkestan. Now much used as a sand binder for the dunes which cause trouble along the Transcaspian railway. The green wood burns freely, is very heavy, and is gathered in immense quantities for fuel. This tree might prove a valuable addition to the native flora in the driest sand deserts of our Southwest. The native name is *Saxaul*." (*Hansen.*)

*Distribution.*—A native of central Asia, extending from the Ural to the Altai mountains and south into Persia.

**24556. SALSOLA ARBUSCULA Pall.**

"(No. 145.) A native arborescent shrub, native of the sand deserts of the Transcaspian region east of the Caspian Sea in Turkestan. This lot is from Chardchui, where the Russian Government has made extensive experiments in planting sand binders to hold the drifting dunes along the line of the Transcaspian railway. This species is one of the favorite plants for that purpose." (*Hansen.*)

*Distribution.*—A native of central Asia, from the Ural to the Altai mountains.

**24451 to 24575—Continued.****24557. CALLIGONUM sp.**

“(No. 240.) An arborescent shrub, native of the sand deserts of Turkestan, now used as a sand binder along the Transcaspian railway. See Nos. 133, 145, 241, and 242 (S. P. I. Nos. 24555, 24556, 24558, and 24559). Seed from Chardchui.” (*Hansen.*)

**24558. CALLIGONUM APHYLLUM (Pall.) Guerke.**

“(No. 241.) Another species used as a sand binder along the Transcaspian railway. Seed from near Chardchui. See Nos. 133, 240, and 242 (S. P. I. Nos. 24555, 24557, and 24559).” (*Hansen.*)

*Distribution.*—A native of southern Russia, in the vicinity of the Caucasus Mountains and the Caspian Sea.

**24559. CALLIGONUM CAPUT-MEDUSAE Schrenk.**

“(No. 242.) Used as a sand binder along the Transcaspian railway. Seed from near Chardchui. Nos. 240, 241, and 242 (S. P. I. Nos. 24557, 24558, and 24559) are all native of the sand deserts of Turkestan. See Nos. 133, 240, and 241 (S. P. I. Nos. 24555, 24557, and 24558).” (*Hansen.*)

*Distribution.*—A native of the deserts in the region of the Altai Mountains in southern Russia.

**24560. PANICUM MILIACEUM L.****Millet.**

“(No. 136.) ‘*Orenburg red millet*,’ grown at Tashkend, Turkestan. May prove to be the same as the *Red Lump Orenburg* millet I introduced from my 1897 trip to Russia. Everything from Orenburg ought to be specially adapted to dry-farming conditions.” (*Hansen.*)

**24561. PANICUM MILIACEUM L.****Millet.**

“(No. 188.) ‘*Chinese black millet*’ from Tashkend, Turkestan. Appears similar to the lot I obtained in Turkestan in 1897. Afterwards Mr. M. A. Carleton secured the *Black Veronesh* millet. ‘Veronesh’ appears a better spelling than ‘Veronezh.’ These large black-seeded millets produce heavily in South Dakota, even when sown late on new breaking, and are useful in stock feeding. The Kirghiz Tartars of northern Turkestan use these and other large-seeded native millets extensively as an important part of their daily diet. For their value in feeding steers, see South Dakota Agricultural Experiment Station Bulletin No. 97, by James W. Wilson and H. G. Skinner.” (*Hansen.*)

**24562. CICER ARIETINUM L.****Chick-pea.**

“(No. 141.) Chick-pea or ‘Persian pea,’ from the experiment station at Bairamalee, Turkestan. This is near Merv, a few miles from the Persian border, in ancient Turcomania.” (*Hansen.*)

**24563. TRITICUM DURUM Desf.****Wheat.****24564. CICER ARIETINUM L.****Chick-pea.**

“(No. 232.) Native chick-pea as grown at Samarkand, Turkestan.” (*Hansen.*)

**24565. CICER ARIETINUM L.****Chick-pea.**

“(No. 243.) Another lot of ‘Persian peas’ or *Garok*, the native name, as grown by the Turcomen in the dry region at Bairamalee, near Merv, Turkestan.” (*Hansen.*)

**24566. VIGNA UNGUICULATA (L.) Walp.****Cowpea.**

“(No. 190.)” *Brown-Eye*.

**24567. MEDICAGO SATIVA L.****Alfalfa.**

“(No. 142.) *Turcestanica* alfalfa as bought in the native bazaar at Bairamalee, near Merv, Turkestan. See No. 259 (S. P. I. No. 24811).” (*Hansen.*)

## 24451 to 24575—Continued.

24568 and 24569. *ELAEAGNUS ANGUSTIFOLIA* L.

Oleaster.

24568. "(No. 146.) A cultivated form with edible fruits fully an inch in length, extensively grown in Turkestan. This sample is from Chardchui." (*Hansen.*)

24569. "(No. 238.) Seed of an edible-fruited form, fruit fully an inch long, as grown in Transcaucasia. This lot from bazaar at Tiflis, Transcaucasia." (*Hansen.*)

*Distribution.*—A native of southern Europe and western Asia, in the region of the Caspian Sea. Cultivated as an ornamental in the United States.

24570. *PHASEOLUS RADIATUS* L.

Green gram.

"(No. 186.) As grown by the Mohammedans on the northern limits of cotton culture near Tashkend, Turkestan. Used as a catch crop when too late for cotton. The peas are called *Masch* by the natives, and are used for food by them. A promising legume as a cover crop for the cotton belt, and in the dry parts of the Southwest." (*Hansen.*)

24571. *ALLIUM* sp.

"(No. 191.) An ornamental native onion found in the mountains near Tashkend, Turkestan." (*Hansen.*)

24572. *PUNICA GRANATUM* L.

Pomegranate.

"(No. 235.) Seed of a native variety grown by the native Sarts at Old Bokhara, Turkestan." (*Hansen.*)

24573. *ZIZYPHUS SATIVA* Gaertn.

Chinese date.

"(No. 237.) A sweet fruit from Kutais Province, Transcaucasia, bought in fruit bazaar at Baku." (*Hansen.*)

24574. *PISTACIA VERA* L.

Pistache.

"(No. 239.) Pistache nuts grown in southern Transcaucasia (Armenia) near Persian frontier. This lot is from bazaar at Tiflis, Transcaucasia." (*Hansen.*)

*Distribution.*—A native of Asia; beginning to be cultivated in California.

24575. *SESAMUM ORIENTALE* L.

Sesame.

"(No. 245.) Seeds raised in the Golodnaya or Hunger steppe, Turkestan. The sesame oil is much liked for table use by the native Mohammedan Sarts. The first oil pressed out is used for the table and in cooking; the rest, with the seeds, is used for the manufacture of *Khalvah*, a favorite Russian and oriental candy. The merits of this sesame oil-cake confection should be investigated by manufacturers in the driest and hottest regions of the United States, as *Khalvah* is certainly a delicious candy, with its fine silk-thread consistency and rich nut flavor. Sesame oil alone will not probably win much favor here, with the abundant and cheap cotton-seed oil. Sesame is an annual and extensively grown in oriental countries." (*Hansen.*)

24576. *PUNICA GRANATUM* L.

Pomegranate.

From Chios, Turkey in Asia. Presented by Mr. N. J. Pantelides. Received January 12, 1909.

Cuttings.

"These pomegranates are not seedless, but the seed is so soft that it can be ground between the teeth without the least difficulty, especially if the fruit is left to ripen long enough on the tree, which needs to be copiously watered." (*Extract from letter of Mr. Pantelides, dated December 24, 1903.*)

**24585 and 24586. VICIA spp.**

From Erfurt, Germany. Purchased from Haage & Schmidt, at the request of Mr. C. V. Piper. Received January 13, 1909.

Seeds of the following:

**24585. VICIA BIENNIS L. (?)****Woolly-pod vetch.**

"This vetch is in most respects very similar to hairy vetch, being nearly, if not quite, as hardy and maturing much earlier." (*Piper.*)

**24586. VICIA DISPERMA DC. (?)****Two-seeded vetch.**

"A slender-stemmed erect-growing vetch which has done remarkably well in most of the vetch-growing regions. The stems are very fine and the yield of hay therefore comparatively light, but there is reason to believe that it will maintain itself from year to year in pastures without reseeded." (*Piper.*)

**24587. ATALANTIA HINDSII (Champ.) Oliver.**

From Hongkong, China. Presented by Mr. S. T. Dunn, superintendent, Botanical and Forestry Department. Received January 14, 1909.

Seeds of a shrub with compressed branchlets, ovate-elliptical leathery leaves,  $1\frac{1}{2}$  to 3 inches long, bearing small flowers in axillary clusters, followed by small orange-colored fruits. For citrus breeding experiments.

*Distribution.*—Found on the wooded hills in the vicinity of Hongkong, China.

**24588. PASSIFLORA sp.**

From C. Juarez, Chihuahua, Mexico. Presented by Mr. Elmer Stearns, botanist, School of Agriculture, through Mr. Frederic Chisolm. Received January 15, 1909.

Seeds.

"Fruits about the size of a goose egg and orange-yellow when ripe." (*Stearns.*)

**24589. ELAEIS MELANOCOCCA Gaertn.**

From Cartagena, Colombia, South America. Presented by Mr. Isaac A. Manning, United States consul. Received January 15, 1909.

Seeds of a palm whose stem creeps along the ground and bears a tuft of large pinnate leaves with strong prickly stalks. The flowers are borne in a large head, consisting of numerous little branches bearing minute flowers. The fruits are bright red; the seeds are black.

*Distribution.*—A native of the primeval woods along the upper branches of the Amazon in the provinces of Para and Rio Negro, Brazil.

**24590. CYTISUS PROLIFERUS Linn. f.****Tagasaste.**

From Teneriffe, Canary Islands. Received from Mr. C. H. Hamilton, through Mr. J. B. Blandy, Funchal, Madeira, January 16, 1909.

"Fodder shrub for light, dry soil; finally grows to 20 feet high, deep rooted, rather intolerant to frost and drought." (*Dyer.*)

"Mr. Hardy, of Adelaide, recommends it as quickly growing for a wind-break. Requires to be periodically cut back, as it otherwise gets too hard for fodder. Very valuable also for apiarists, as flowering during several months, and here during the cool season. In some places it was found that horses and cattle dislike this plant as nutriment. It grows quickly again when cut." (*Von Mueller.*) For previous introductions, see S. P. I. Nos. 2153, 4021, and 7696.

**24591. BELOU GLUTINOSA** (Blanco) Skeels. (*LIMONIA GLUTINOSA* Blanco.) (*AEGLE DECANDRA* Naves.)

From Montalban, Luzon, Philippine Islands. Presented by Mr. William S. Lyon, who collected the seed in December, 1908. Received January 18, 1909.

Seeds.

"A tree, trunk armed with large spines; leaves alternate, ternate; flowers axillary or terminal, whitish. Fruit oblong, 3 inches long, 2 inches thick, surface covered with protuberances and grooved; pulp glutinous, aromatic; juice sour. The wood is used for pillars in houses and the fruit is made into glue. Native names, *Tabog* and *Taboc*." (*Blanco, Flora de Filipinas, 1837.*)

"May be used as a possible stock for dry farming of citrus." (*Lyon.*)

**24592. BLIGHIA SAPIDA** König.

From Ancon, Canal Zone, Panama. Presented by Mr. H. F. Schultz. Received January 18, 1909.

"The 'Akee,' a beautiful African tree introduced into the West Indies. Valued in Jamaica as a richly flavored and wholesome food. The bright-yellow, fleshy arillus is the part eaten. Should not be eaten if in the *least* decayed. The fruit is prepared in various ways, stewed in milk and afterwards browned in a frying pan with butter. It is also commonly eaten boiled and mixed with salt fish, onions, and tomatoes as a breakfast food." (*Extract from Cook and Collins, "Economic Plants of Porto Rico."*)

**24593 to 24595.**

From Miami, Fla. Received through Mr. P. J. Wester, in charge of Subtropical Garden, January 16, 1909.

The following seeds:

**24593. THRINAX FLORIDANA** Sarg.

"This is indigenous to southern Florida and the keys, with slender trunk, attaining a height of 25 or more feet, with crown of small diameter; the leaves are green above and silvery white beneath; the berries are produced in great abundance and are waxy white. This palm might make a very satisfactory subject for the conservatory, where, as far as I am aware, it has never been tried, and is worth introducing into southern California and Hawaii. I have no doubt it is indigenous to Porto Rico." (*Wester.*)

**24594. COCCOTHRINAX GARBERI** (Chapm.) Sarg.

"This is a dwarf palm with rather slender stem; leaves yellowish green, lustrous above, silvery beneath; the berries are deep purple. This also might make a very attractive greenhouse subject, and is certainly worth introducing into southern California and Hawaii." (*Wester.*)

*Distribution.*—Found on dry coral ridges near the shore of Biscayne Bay, Florida.

**24595. JACQUEMONTIA PENTANTHA** (Jacq.) G. Don.

An attractive greenhouse climber for summer and autumn flowering, with rich violet-blue flowers. (*Adapted from Bailey.*)

*Distribution.*—Florida keys and Tropical America.



**24596. MEDICAGO DENTICULATA Willd.****Bur clover.**

From Chico, Cal. Grown at the Plant Introduction Garden by Mr. Roland McKee from seed collected near Tanghsiang, Shansi, China, by Mr. Frank N. Meyer, agricultural explorer, April 30, 1907; received at the Plant Introduction Garden June 15, 1907, under his number, 727a. Received at Washington, D. C., and numbered for convenience in recording distribution, January 14, 1909.

"A leguminous perennial, probably a bur clover, found growing between rocks. May be of use on dry sterile soils as a fodder plant. Only found in one locality and only a few plants to be found there." (*Meyer.*)

**24598. MEDICAGO SATIVA L.****Alfalfa.**

From Yuma, Ariz. Received through Mr. Charles J. Brand, January 19, 1909.

"Seed of Andean alfalfa, propagated from the original importation No. 9303. In the production of this seed the method of planting transplanted crowns, which appears to be fairly common in South America, but which has not, so far as known, been used in this country, was employed. Within five months from time of transplanting the crowns, which were taken from a 3-year-old stand, mature seed was produced. Almost 75 pounds of seed were taken from about one-fourth of an acre, with the plants 3 feet apart each way. The general use of this method is suggested when it is desired to plow up old fields which have become unprofitable because of the thinness of the stand." (*Brand.*)

**24599. PISUM SATIVUM L.****Pea.**

From Paris, France. Purchased from Vilmorin-Andrieux & Co. Received January 16, 1909.

*Tall Butter Sugar.*—"A variety distinguished by fleshy and fiberless pods that can be used in the same way as string beans. An old variety in Europe, but rarely grown, thus far, in America." (*W. W. Tracy, sr.*)

**24600. DIOSPYROS EBENASTER Retz.**

From Guadalajara, Mexico. Presented by Señor Luis Rosas, through Mr. Frederic Chisolm. Received January 21, 1909.

"The *Zapote Prieto* of Mexico. A persimmon with large, delicious, and delicate fruits, the flesh of which looks curiously like axle grease. Properly a tropical tree, but capable of withstanding light frosts when it forms a low tree with bright, glossy green leaves, 15 to 25 feet high. In frostless regions it reaches a height of 60 to 70 feet. Fruits too soft to stand long shipment. Should succeed in southern Florida and southern California." (*Chisolm.*)

*Distribution.*—A native of the Philippine Islands and the Celebes. Cultivated in Mauritius, Calcutta, and Malacca. Occurs also in cultivated places in Tropical America: Orizaba, Vera Cruz, Cuernavaca, Lizaro, Miradon, and Cordova, in Mexico; Rio Janeiro in Brazil; and in Cuba.

**24601. CAJAN INDICUM Spreng.**

From Huradura, Cuba. Presented by Prof. F. S. Earle, through Prof. S. M. Tracy, Biloxi, Miss. Received January 20, 1909.



**24602 and 24603. MEDICAGO spp.**

From Germany. Secured by Mr. G. Schulze, civil engineer, Altenkirchen, Westerwald, Germany, and presented by Mr. Paul Schulze, Chicago, Ill., through Mr. Charles J. Brand. Received January 22, 1909.

Seeds of each of the following:

**24602. MEDICAGO SATIVA L.**

**Alfalfa.**

*Provence.* From Bonn, Germany. (P. L. H. No. 3352.)

**24603. MEDICAGO SATIVA VARIA (Mart.) Urb.**

**Sand lucern.**

From Erfurt, Germany. (P. L. H. No. 3353.)

**24604. CAJAN INDICUM Spreng.**

From Little River, Fla. Presented by Mr. E. J. Andrews, through Mr. P. J. Wester, in charge of Subtropical Garden, Miami, Fla. Received January 22, 1909.

“(S. G. No. 1169.) This plant is similar in habit and appearance to the ordinary pigeon pea, except that the standard of the corolla is streaked with deep orange-red, while the ordinary species in cultivation here is pale lemon-yellow; it differs also in that the plant blooms early in the fall and the seed ripens by Christmas or a little later, while the ordinary pigeon pea is still in bloom and will not ripen its seed for a month more at least. The pigeon pea is useful in poultry yards, where the chickens crack the pods and eat the peas. This variety would be useful, as it ripens earlier than the ordinary variety, and would probably be of interest to the people in Hawaii, Porto Rico, and the Canal Zone. The seed from which Mr. Andrews's plants grew came from Nassau, Bahama.” (*Wester.*)

**24605 to 24607. TRITICUM AESTIVUM L.**

**Wheat.**

From Smyrna region, Turkey. Presented by Mr. H. Caramanian, Amasia, Turkey, at the request of Mr. M. A. Carleton. Received January 23, 1909.

Seeds of each of the following:

**24605.** “Red black awned.”

**24606.** “Yellow Poussana.”

**24607.** “White Poussana.”

**24608. ROSA sp.**

**Rose.**

From Guadalajara, Jalisco, Mexico. Presented by Señor Severo Hernandez, through Mr. Frederic Chisolm. Received January 26, 1909.

“The ‘rosa rellena’ of the Mexicans, a healthy, strong-growing variety with flowers as large and perhaps better formed than those of the American Beauty, rather darker in color and not so fragrant.” (*Chisolm.*)

**24609. GLYCOSMIS PENTAPHYLLA (Retz.) Correa.**

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Botanic Garden. Received January 27, 1909.

Variety *dilatata*. An unarmed shrub with evergreen compound leaves of one to five leaflets. The small, white, fragrant flowers are borne in panicles. The berries are white, globose, varying from the size of a pea to that of a cherry.

*Distribution.*—Throughout tropical and subtropical Himalaya, ascending to 7,000 feet in Sikkim; also in southern China, in the Philippines, and in northeastern Australia.

**24610. GLYCINE HISPIDA (Moench) Maxim.****Soy bean.**

From Trenton, Ky. Purchased from Mr. S. J. Leavell. Received January 6, 1909.

*Trenton.* "A brown-seeded variety picked out of *Mammoth* by Mr. Leavell in 1904, and in that year 12 plants produced 7 pounds of seed; in 1905 these 7 pounds produced 10 bushels; in 1906 Mr. Leavell reports that with exactly the same treatment it out-yielded *Mammoth* by 50 per cent. Seems like a promising variety." (*H. T. Nielsen.*)

**24612. MEDICAGO FALCATA L.**

From Babb, Mont. Grown by Mr. C. L. Bristol and received from him January 18, 1909.

Grown from S. P. I. No. 20718.

**24613. SOLANDRA GRANDIFLORA Swartz.**

From Guadalajara, Jalisco, Mexico. Presented by Señor Severo Hernandez, through Mr. Frederic Chisolm. Received January 26, 1909.

"Cuttings of 'Guayacan' or 'Copa de oro,' an ornamental hard-wood climber, with smooth, bright-green leaves and very large gold-colored flowers. Very ornamental in every way, but not suited for outdoor cultivation except in frostless sections." (*Chisolm.*)

*Distribution.*—A native of Jamaica and of Mexico, extending north to Cordova; also south through Guatemala, Nicaragua, and Colombia to Brazil.

**24614 to 24619.**

From Antigua, British West Indies. Presented by Mr. A. S. Archer, through Mr. P. J. Wester, in charge of Subtropical Garden. Received January 28, 1909.

Seeds of each of the following:

**24614. HYDRIASTELE WENDLANDIANA (Muell. & Moore) Wendl. & Drude.**

(S. G. No. 1175.) *Distribution.*—A native of the northern coast of Australia.

**24615. THRINAX BARBADENSIS Lodd.**

(S. G. No. 1177.) *Distribution.*—A native palm of the island of Barbados in the British West Indies.

**24616. CARYOTA MITIS Lour.**

(S. G. No. 1178.) *Distribution.*—A native palm of southeastern Asia, extending from Burma and the island of Hainan southward through the Malay Archipelago.

**24617. THRINAX MORRISH Wendl.**

(S. G. No. 1179.) *Distribution.*—A dwarf palm found in Anguilla Island in the British West Indies.

**24618. THRINAX RADIATA Lodd.**

(S. G. No. 1180.) *Distribution.*—A native palm on the island of Trinidad and also found in Cuba.

**24619. ABRUS PRAECATORIUS L.**

(S. G. No. 1176.) "A cream-colored variety of this twining vine." (*Archer.*)

*Distribution.*—A native of the Himalaya Mountains, ascending to 3,500 feet, and of Ceylon and Siam. Cultivated generally throughout the Tropics; used in the southern part of the United States for covering screens.

**24620 to 24630.**

A collection of conifer seeds secured for foreign exchange and for cooperative hybridizing experiments with Mr. J. W. Riggs, Waterloo, Kans.

**24620. PINUS MURICATA D. Don.**

From Fruitvale, Cal. Purchased from Mr. F. A. Miller. Received January 28, 1909.

*Distribution.*—California coast region from Mendocino County southward, usually in widely separated localities, to Tomales Point, north of the Bay of San Francisco, and from Monterey to San Luis Obispo County; in Lower California on Cedros Island, and on the coast between Ensenado and San Quintan.

**24621 to 24629.**

Received through the Forest Service, United States Department of Agriculture, Washington, D. C., January and February, 1909.

**24621 to 24623.** Collected in Crook National Forest, Arizona, at an altitude of approximately 6,000 feet.

**24621. JUNIPERUS PACHYPHLEA Torr.**

*Distribution.*—Dry, arid mountain slopes, usually at elevations of 4,000 to 6,000 feet above the sea, from the Eagle and Limpio mountains in southwestern Texas, westward along the desert ranges of New Mexico and Arizona, south of the Colorado plateau, extending northward to the lower slopes of many of the high mountains of northern Arizona and southward into Mexico.

**24622. JUNIPERUS MONOSPERMA Sarg.**

*Distribution.*—Along the eastern base of the Rocky Mountains from the divide between the Platte and Arkansas rivers in Colorado to western Texas, southern New Mexico, and Arizona and southward into northern Mexico.

**24623. PINUS EDULIS Engelm.**

*Distribution.*—Eastern foothills of the outer ranges of the Rocky Mountains, from Colorado to western Texas, westward to the eastern border of Utah, southwestern Wyoming, northern and central Arizona, and over the mountains of northern Mexico.

**24624 and 24625.** Collected in Chiricahua National Forest, Arizona.

**24624. JUNIPERUS PACHYPHLEA Torr.**

From an elevation of 5,000 feet. See No. 24621 for distribution.

**24625. CUPRESSUS ARIZONICA Greene.**

From an elevation of 5,500 feet.

*Distribution.*—Found on the mountains of central, eastern, and southern Arizona, often on the northern slopes forming almost pure forests of considerable extent at elevations of 5,000 to 6,000 feet above the sea; also found on the mountains of northern Sonora and Chihuahua, in Mexico.

**24626. PINUS PONDEROSA Laws.**

Collected in Coconino National Forest, Arizona.

*Distribution.*—A large tree of the western part of North America, extending from British Columbia to Lower California and northern Mexico and eastward as far as northwestern Nebraska and western Texas.

**24620 to 24630—Continued.****24621 to 24629—Continued.****24627. PICEA ENGELMANNI (Parry) Engelm.**

From Gallinas Cañon, Pecos National Forest, New Mexico. Altitude, approximately 7,800 feet.

*Distribution.*—A native tree of the high mountain slopes of western North America, extending from Alberta and British Columbia to New Mexico and Arizona, from an elevation of 5,000 feet in the north to 11,500 feet in the south.

**24628. PSEUDOTSUGA TAXIFOLIA (Lamb.) Britt.**

Collected in Carson National Forest, New Mexico, at an altitude of approximately 7,500 feet.

*Distribution.*—From about latitude 55° north in the Rocky Mountains and from the head of the Skeena River in the Coast Range southward through all the Rocky Mountain system to the mountains of western Texas, southern New Mexico, southern Arizona, and northern Mexico.

**24629. PICEA ENGELMANNI (Parry) Engelm.**

Collected in Alamo National Forest, New Mexico, at an altitude of approximately 9,000 feet. See No. 24627 for distribution.

**24630. PINUS CARIBAEA Morelet.**

From Miami, Fla. Received through Mr. P. J. Wester, in charge of Subtropical Garden, January 4, 1909.

*Distribution.*—A native of the southeastern coast of North America, from South Carolina to the highlands of Central America, and of the Bahamas and the Isle of Pines.

**24631. GOURLIEA SPINOSA (Mol.) SKEELS. (LUCUMA SPINOSA Mol., 1782.) (GOURLIEA CHILENSIS Gay, 1846.)**

From Nice, France. Presented by Dr. A. Robertson Proschowsky. Received January 28, 1909.

Seed of the Chañal, a small tree 12 to 15 feet high, with long, thick, cylindrical branches, ending in spines. The leaves are compound, consisting of three pairs of small ovate leaflets. The flowers, borne in short, loose racemes, are orange-yellow, streaked with red. The fruit is about 1 inch in diameter, covered with a brownish skin and having a pulp resembling a jujube (Chinese date) in flavor. The wood is yellow, quite hard, and used considerably by cabinetmakers.

*Distribution.*—This tree grows along hedges in the provinces of Coquimbo, Copiapo, Tambo, and Guanta in Chile at an elevation of 1,500 to 5,000 feet.

**24635. MEDICAGO SATIVA L.****Alfalfa.**

From Boxberg, Baden, Germany. Secured from the Getreidelagerhaus, Boxberg, through Mr. Charles J. Brand. Received January 27, 1909.

*Alt-Deutsche Fränkische lucern.* "This seed was grown in the same region as No. 22467, under which number a detailed account is given. It is of special interest on account of the fact that it comes from within 15 or 20 miles of the original home of the well-known *Grimm* alfalfa of Minnesota." (*Brand.*)

**24636. MANGIFERA INDICA L.****Mango.**

From Papeete, Tahiti, South Sea Islands. Presented by Mr. Barbour Lathrop.  
Received January 30, 1909.

"This is a tiny, rich-flavored mango, very different from any I have ever seen, not much larger than a very big English walnut. There is only one tree on the island, and no one can tell me where it came from. The fruits from which these seeds were taken were about the size of a large plum and very delicate in taste." (*Lathrop.*)

**24637. MASCARENHASIA ELASTICA K. Schum.**

From Mozambique, Portuguese East Africa. Presented by Mr. O. W. Barrett,  
Director of Agriculture, Lourenço Marquez. Received February 1, 1909.

"(No. 22.) Seed of a shrubby tree 20 to 30 feet high. Wild in hinterland of Mozambique Company's territory. Rubber of about same quality as *Landolphia kirkii*. Mr. W. H. Johnson, the agronomist of the Mozambique Company, thinks the species a rather valuable discovery. It grows with *Landolphia kirkii* and the rubber exported through Beira probably consists of the two gums mixed." (*Barrett.*)

*Distribution.*—A native of the woods of German East Africa, in the vicinity of Dar-es-Salaam and Mbuffu.

**24638. ILEX CORNUTA Lindl. and Paxt.**

From 75 or 100 miles northwest of Shanghai, China. Presented by Rev. J. M. W. Farnham, Chinese Tract Society, Shanghai, China. Received January 30, 1909.

*Distribution.*—A native of China, being found at Shanghai and Chinkiang in the province of Kiangsu; at Ningpo and Kiangsi in the province of Chekiang; and at Ichang in the province of Hupeh.

**24639. PHASEOLUS SEMIERECTUS L.**

Grown at Biloxi, Miss., in 1908, by Mr. S. M. Tracy, special agent. Received January, 1909.

"Original seed from Cuba, where the plant is valued highly as a semivolunteer cover crop in orange groves. Flowers are in spikes which continue to grow indefinitely, so that ripe seed and fresh flowers occur on the same stem, which makes seed gathering slow work." (*Tracy.*)

**24640. SAPIUM VERUM Hemsley.****Virgin rubber.**

From Chaparral, Tolima, Colombia, South America. Purchased from Mr. Andres Rocha. Received February 2, 1909.

"*Caucho virgin* (Tolima). *Caucho blanco* (Cauca). Seeds of the Tolima (virgin) rubber tree, once common in the forests of the upper valleys of the Magdalena basin in Colombia, but to-day scarcely seen in its wild state and seldom cultivated. It grows in a temperate, almost cold but equable climate, between 1,800 and 3,200 meters of altitude, in such conditions of soil and general environment as to make the possibility of its acclimatization in Florida appear very doubtful. It might be tried with better prospects of success in the upper forest zone of the Philippine Islands, as well as in Hawaii and Porto Rico. When cultivated in its own country it thrives splendidly. Trees 8 to 10 years old are expected to yield annually from 1 to 3 kilograms of rubber of very high quality, second only to the best Para. One individual 14 years old seen at Tocotá, near Calé, Colombia, measured 65 centimeters in diameter and 50 meters in height. The tree flowers for the first time when about 3 years old. As far as is known, the only way of obtaining a full yield of the latex is to fell the trees, the average product being from 5 to 8 kilograms of raw rubber to each tree. This method is generally applied to the wild trees, which explains the rapid disappearance of the species." (*H. Pittier.*) See also S. P. I. Nos. 3820 and 3948.



**24641 to 24643. GLYCINE HISPIDA (Moench) Maxim. Soy bean.**

From Taihoku, Formosa. Presented by Mr. I. Kawakami. Received January 21, 1909.

The following seeds:

**24641.** Cream-yellow.

**24642.** Black, small.

**24643.** Black, very small.

**24644 to 24648.**

From Australia. Presented by Mr. B. Harrison, Burringbar, Tweed River, New South Wales, Australia. Received February, 1909.

Seeds of each of the following (quoted common names given by Mr. Harrison):

**24644.** *CHLORIS VENTRICOSA* R. Br.

"Australian grass."

*Distribution.*—A native grass of the southeastern part of Australia, being found in Queensland and New South Wales.

**24645.** *ERAGROSTIS LACUNARIA* F. Muell.

"Australian never-fail grass."

*Distribution.*—A native grass of the southeastern part of Australia, being found in the valley of the Barcoo River in Queensland, in the valley of the Murray River, and in the vicinity of Lake Eyre, in South Australia.

**24646.** *PANICUM MUTICUM* Forsk.

"Giant Couch. Twenty tons per acre. North Queensland."

*Distribution.*—A native grass of the northern part of Egypt, and cultivated or adventitious generally throughout the Tropics.

**24647.** *PASPALUM QUADRIFARIUM* Lam. (?)

"Brazilian grass."

*Distribution.*—A grass native of the southern part of South America, being found in the low valleys and along shores in southern Brazil, northern Argentina, and in Uruguay.

**24648.** *SPOROBOLUS ARGUTUS* (Nees) Kunth.

"Brazilian mountain grass."

*Distribution.*—A Brazilian grass found in the province of Piahy and in the valley of the San Francisco River.

**24650 and 24651. SOLANUM spp.**

From Mayaguez, Porto Rico. Presented by Mr. D. W. May, special agent in charge, Agricultural Experiment Station. Received February 3, 1909.

Seeds of the following:

**24650.** *SOLANUM MAMMOSUM* L.

"*Berengena de marimbo.*" "A large-fruited wild species used as a stock on which to graft the cultivated varieties of eggplant. The handsome yellow fruits are reputed to be poisonous." (*Frederic Chisolm.*)

*Distribution.*—A native of southern Mexico, extending from the region of Orizaba south through Nicaragua, Panama, Colombia, and Guiana; also in the West Indies.



**24650 and 24651—Continued.****24651. SOLANUM TORVUM Swartz.**

"*Berengena cimarrona*." "A very small-fruited variety." (*Frederic Chisolm*.)

*Distribution*.—Throughout Central America, extending north to San Luis Potosi, Mexico, where it is found at an elevation of 8,000 feet; also commonly found throughout India in the tropical region and in the Malay Archipelago, the Philippines, and in China.

**24652. CITRUS AURANTIUM SINENSIS L.****Sweet orange.**

From Blida, Algeria. Presented by Dr. L. Trabut, government botanist, Mustapha-Alger, Algeria. Received February 5, 1909.

Seeds:

"White orange of Blida." (*Revue horticole*.)

"Tall tree, dark green, spiny, fruits large and abundant, pale-lemon color, flesh very pale color, fine, very juicy. Rare variety of seedling at Blida, more robust than the white orange of Teneriffe. January to April." (*Trabut*.)

**24653. AMYGDALUS PERSICA L.****Peach.**

From Canton, China. Presented by Mr. G. W. Groff. Received February 5, 1909. Scions.

*Ying tsui to*.

**24654 to 24656. FRAGARIA CHILOENSIS (L.) Duchesne. Strawberry.**

From Chile. Received through Mr. José D. Husbands, Limávida, Chile, February 5, 1909.

The following seeds:

**24654.** "Light-red class, prolific, hardy, acid sweet, good flavor, ripens quickly and becomes soft; bad shipper." (*Husbands*.)

**24655.** "White class, mixed; fine flavor, extra firm flesh, very large size, extra prolific, early and quick ripener, hardy, good shipper, thrives in the worst soils (clays) with little moisture. Fine sort to work on as a base for selections." (*Husbands*.)

**24656.** "White class, same fruit as S. P. I. No. 24655 with the exception that they are uniform in size and shape, fruit somewhat smaller, some of which have a pale-pink tint scattered at the top." (*Husbands*.)

*Distribution*.—A native of the Pacific slope of America extending from Alaska to Patagonia; also found in the Sandwich Islands.

**24657. STIZOLOBIUM sp.**

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Department of Agriculture. Received February 8, 1909.

**24658. ANDROPOGON BARBINODIS Lag.**

From Chico, Cal. Grown at the Plant Introduction Garden by Mr. Roland McKee from seed procured from the Wagga Experimental Farm, New South Wales, Australia, in 1904, under Agrostology No. 2293. Received February, 1909.

*Distribution*.—A native of the southwestern part of the United States, extending into Mexico.

**24659. PISTACIA CHINENSIS Bunge.****Pistache.**

From Laotanchuang, Shantung, China. Collected by Mr. Henry S. Cousins, Taianfu, Shantung, China, forwarded through Mr. Ernest Vollmer, vice-consul, Tsingtau, China. Received February 8, 1909.

"*Description and habitat.*—*Pistacia chinensis* (Chinese name 'Huanglien shu'). Seed of a deciduous, dioecious tree, growing 40 to 50 feet tall, with a trunk 4 to 5 feet in diameter, of spreading habit, bearing large, pinnated leaves which are of a wine-red when budding out, of a vivid, glossy green in summer, and changing into flaming scarlet and yellow in the fall. The pistillate trees bear heavy bunches of small berries, which are green at first, turn into red later on, but assume a bluish green color when ripe. The seeds are not edible, but they yield an illuminating oil in small quantities. This wild Chinese pistache looks strikingly like a gigantic sumac, and will be appreciated as a new shade and ornamental tree, especially in the semiarid mild-wintered regions of the United States. I observed in China that the male trees were invariably larger than the females and were also handsomer trees.

"Strong hopes are held that the Chinese pistache may supply a suitable stock for the *Pistacia vera*, which produces the celebrated pistache nuts of commerce and for which hardier, more easily handled stock is needed." (*Meyer.*) For fuller notes and photographs, see "Ornamental Horticulture in China," by Frank N. Meyer.

"Until Mr. Meyer secured the Chinese pistache the only hardy stock available was the *Pistacia terebinthus* L. of southern Europe, of which it has proved impossible to secure any considerable quantities of seed. The Chinese species, however, bids fair to be superior to it in every respect, as it is hardier, grows more rapidly, and reaches a larger size. It is the hardiest known species of the pistache (see S. P. I. No. 10285), and Mr. Meyer's investigations have shown that it grows to very large size and is in fact the largest species of the section to which *Pistacia terebinthus* belongs. The latter is the stock upon which a large part of the high-priced Sicilian pistaches are grown, so it is highly probable that the Chinese pistache will prove satisfactory as a stock upon which to work the improved varieties of *Pistacia vera*.

"Although this Chinese pistache was introduced into Europe from Central China some forty years ago and a plant of it is still growing in the Botanic Garden at Paris, it remained a botanical curiosity until Mr. Meyer secured scions and seed from northern China, where the winters are more rigorous than in any other part of the world where pistaches grow wild.

"Large numbers of Chinese pistache seedlings have been grown at the Plant Introduction Garden, Chico, Cal., from seed secured by Mr. Meyer. The young plants have proved to be of remarkably rapid growth, decidedly more rapid than any other stock tested as yet." (*Swingle.*) For further remarks, see S. P. I. Nos. 10285, 17734, 17735, 18272, 18273, 18605, 19391, and 21970.

**24661 to 24665. ANONA CHERIMOLA Mill.**

From Chile. Received through Mr. José D. Husbands, Limávida, Chile, February 5, 1909.

The following seeds:

**24661.** *Lisa*, or large smooth-skin class.

**24662 and 24663.** "*Púas*, meaning graft. I am not aware why this variety is called *Púas*." (*Husbands.*)

**24664 and 24665.** "*De Concha*, meaning shell. The fruit is so called on account of its having a rough surface; other varieties with rough, warted, uneven surfaces are also called '*Rugoso*' and '*Escamosa*' (scaly like an oyster shell)." (*Husbands.*)

*Distribution.*—A native of America, extending from Chile north through Peru and Central America to the region of Orizaba, Mexico. Cultivated in Florida and in Italy and Algeria.

**24667. MEDICAGO SATIVA L.****Alfalfa.**

From Iphofen, Bavaria, Germany. Secured from the Saatzucht Verein für fränkische Luzerne in Iphofen, Bavaria, through Mr. Charles J. Brand. Received February 8, 1909.

*Alt-Deutsche Fränkische lucern.* "(P. L. H. No. 3355.) This old-land race received its name from the circles of Franconia in northern Bavaria, where it has been grown many years. In the vicinity of Iphofen three to four cuttings of hay are secured each year. The seed is produced by the second crop." (*Brand.*)

**24668. MEDICAGO SATIVA L.****Alfalfa.**

From Germany. Secured by Herr Carl Bodenstein, Osterode am Harz, Germany, and presented by Mr. Paul Schulze, Chicago, Ill., through Mr. Charles J. Brand. Received January 30, 1909.

(P. L. H. No. 3356.)

**24671. CHAYOTA EDULIS Jacq.****Chayote.**

From Los Angeles, Cal. Presented by Mr. M. E. Cheney. Received February 15, 1909.

A small, smooth variety, secured for cooperative work with the State Experiment Station, Baton Rouge, La.

*Distribution.*—A native of tropical South America, Central America, and Mexico, where it extends northward to the province of Chihuahua. Cultivated in California, and Florida and in southern Spain and Algeria.

**24672 to 24711.**

From India. Presented by J. Mollison, esq., M. R. A. C., Inspector-General of Agriculture in India, Nagpur, C. P. Received February 10, 1909.

The following seeds (quoted notes by Mr. Mollison; descriptions of varieties by Mr. H. T. Nielsen):

**24672 to 24690. GLYCINE HISPIDA (Moench) Maxim.**

**Soy bean.**

**24672.** "*Rymbai-ktung.* From Khasi Hills, Assam."

Similar to No. 18258a.

**24673.** "*Bhatumsh* (red). From Darjeeling, Assam."

Light-chocolate color, looks like No. 17852c, which is a selection from *Meyer*, No. 17852.

**24674.** "*Bhatumsh* (yellow). From Darjeeling, Assam."

Straw-yellow with brown hilum.

**24675.** "*Bhatwas.* From Safipur, Unao, U. P."

Black, small seed about the same size as *Cloud*, but rather more dull in color.

**24676.** "*Bhatwas.* From Hasangani, Unao, U. P."

Black, looks like No. 24675, only seeds are shiny like *Cloud*.

**24677.** "*Bhatwas.* From Ranjitpurwa, Unao, U. P."

Black, just like No. 24676, only seeds are a trifle smaller.

**24678.** "*Chabeni khurti* (spotted variety). From Hardupurwa, Teh-Bidhanna, Etawah, U. P."

**24679.** "*Chabeni khurti* (black variety). From Bant, Teh, Sadar, Etawah, U. P."

## 24672 to 24711—Continued.

## 24672 to 24690—Continued.

24680. "*Chabeni khurti* (black variety). From Atsu, Teh, Auraya, Etawah, U. P."
24681. "*Bhatwas* (mixture of spotted and black). From Mainpuri, U. P."
24682. "*Kali khurti*, *Chabeni khurti*, *Khajwa*. From Mainpuri, U. P."
24683. "*Chabeni khurti* (black variety). From Kilerman, Teh, Sadar, Etawah, U. P."
24684. "*Chabeni khurti* (black variety). From Amapur, Teh, Kasaganj, Etawah, U. P."
24685. "*Chabeni khurti* (black variety). From Aliganj, Etawah, U. P."
24686. "*Chabeni khurti Bhundadar* (spotted variety). From Jalesar, Etawah, U. P."
24687. "*Khajwa* or *kulthi*. From United Provinces."
24688. "*Bhatwas*. From Cawnpore, U. P."
24689. "*Bhatwas*. From Nanbasta, Cawnpore, U. P."

The preceding S. P. I. Nos. 24678 to 24689 are black, with small seed, about the size and shape of S. P. I. No. 20410. There is some slight variation in the size of the seed, but the entire lot might easily be taken for the same variety if judged by the seed only.

24690. "*Bharat Safed*. From Dehra Dun, U. P."

Similar to S. P. I. No. 22901.

24691 and 24692. *DOLICHOS BIFLORUS* L.

*Distribution*.—A leguminous vine, native in India, from the Himalayas to Ceylon and Burma, occurring at elevations of 3,000 feet in Sikkim; also found generally throughout the Tropics of the Old World, being cultivated in some places.

24693 to 24711. *GLYCINE HISPIDA* (Moench) Maxim.

**Soy bean.**

Japanese varieties of soy beans grown on Poona Farm, Bombay Presidency.

24693. Straw-yellow, with rather an indistinct hilum, quite similar to *Manhattan*, S. P. I. No. 17277.
24694. Straw-yellow, very similar to S. P. I. No. 24693; seeds may be a trifle larger.
24695. Straw-yellow, seed very similar to *Ito San*, but the brown speck at end of hilum is very faint.
24696. Just like above, S. P. I. No. 24695.
24697. Similar to S. P. I. No. 20405.
24698. Olive-yellow, very similar to No. 20893a.
24699. Straw-yellow, seed about the size of S. P. I. No. 17269.
24700. Pale straw-yellow, with a black hilum; seed about the size of *Acme*, S. P. I. No. 14954.
24701. Dirty olive-yellow, with slate-colored hilum; seed about the size of *Ito San* but more globular.
24702. Straw-yellow, with very faint hilum; similar to *Butterball*, S. P. I. No. 17273, but seed rather smaller and not so bright in color.

**24672 to 24711—Continued.****24693 to 24711—Continued.****24703.** "*Oylan Dai Dizen.*"

Straw-yellow, very similar to *Okute*, S. P. I. No. 19986.

**24704.** "*Gosha Dai Dizen.*"

Very similar to S. P. I. No. 24700.

**24705.** Light shade of chromium-green, similar in appearance to S. P. I. No. 17857, but the color is not quite the same.

**24706.** Black. Apparently just like our *Buckshot*, S. P. I. No. 17251.

**24707.** "*Kuru Maru.*"

Apparently just like *Nuttall*, S. P. I. No. 17253.

**24708.** "*Sirohaha.*"

Apparently just like *Butterball*, S. P. I. No. 17273.

**24709.** "*Teppo.*"

Citron-yellow, seeds about the size of *Butterball*.

**24710.** "*Motonari.*"

Seed very similar to S. P. I. Nos. 24700 and 24704, but the hilum is russet in this case.

**24711.** "*Rokugatsu.*"

Citron-yellow, with very faint hilum, seed about the size and shape of *Mammoth*.

**24712. CHAMAECYPARIS NOOTKATENSIS (Lamb.) Spach.****Yellow cedar.**

From Cholmondeley Sound, Prince of Wales Island. Collected by Ranger Babbitt and presented by Mr. W. A. Langille, forest supervisor, Ketchikan, Alaska. Received February 15, 1909.

For use in foreign exchanges.

*Distribution.*—A native tree of the northwestern part of North America, extending from southern Alaska southward through British Columbia and the Cascade Mountains of Washington and Oregon to the valley of the Santiam River.

**24713 and 24714.**

From Harrar, Abyssinia. Presented by Mr. T. Gerolimato, through Mr. Hubert S. Smiley, Drumalis, Larne, County Antrim, Ireland. Received February 16, 1909.

Seeds of each of the following:

**24713. RHAMNUS PRINOIDES L'Herit.**

"This plant is called *Gheisho*, not *Geaho*, and grows by preference on the hills; it reaches a height of 10 to 12 feet. The leaves are never added to the *tieff* [made of the seeds of *Eragrostis abyssinica*], but only to the *tedj* (the hydromel), which consists of one part of honey and two parts of water; then the leaves of *Gheisho* are added to hasten the fermentation." (*Gerolimato.*)

*Distribution.*—A shrub or small tree, native of Abyssinia in East Africa and also of extratropical South Africa, extending to the Cape of Good Hope.



**24713 and 24714—Continued.****24714. CATHA EDULIS Forsk.**

"*Kiat* is a small tree, reaching the height of 10 to 15 feet; it grows in good red soil and by preference on hills in Arabia. There is only one kind, no varieties. The natives masticate the leaves of the tree; the new and tender leaves are of course preferred. It is a narcotic, and some say that it is also an aphrodisiac, like the hashish. The natives do not smoke it like opium. I am afraid the *Kiat* is propagated only by cuttings and not by seeds." (*Gerolimato.*)

*Distribution.*—A native shrub of Abyssinia and Arabia, cultivated to a large extent for its leaves.

**24715 and 24716. CITRUS spp.**

From Cochin China. Presented by Mr. Jacob E. Conner, United States consul, Saigon, Cochin China. Received February 16, 1909.

Seeds of the following:

**24715. CITRUS NOBILIS Lour.**

"Annamite. *Cam-Sanh* grows particularly well at Cai-be, near here (Saigon). The skin is green and almost as loose as the skin of a mandarin orange. I think it as good an orange as I ever ate—splendid, and about the size of a Florida orange." (*Conner.*)

**24716. CITRUS AURANTIUM L.****Orange.**

"*Cam-Mai* is a tight-skinned fruit, yellowish green when ripe, very good to eat, but awkward to handle. On every account I would prefer the above (S. P. I. No. 24715)." (*Conner.*)

**24717 to 24741. MEDICAGO spp.**

From Dahme, Mark Brandenburg, Germany. Secured by Oberlehrer C. von Stoeltzer, of the agricultural school at Dahme, and presented through Mr. Charles J. Brand. Received February 13, 1909.

The following seeds of regional strains of alfalfa, with the German common names:

**24717 to 24736. MEDICAGO SATIVA L.****Alfalfa.****24717.** *Böhmische lucern.* (P. L. H. No. 3359.)**24718.** *Mährische lucern.* (P. L. H. No. 3360.)**24719.** *Ungarische lucern.* (P. L. H. No. 3361.)**24720.** *Provencer lucern.* (P. L. H. No. 3362.)**24721.** *Süd-Französische lucern.* (P. L. H. No. 3363.)**24722.** *Nord-Französische lucern.* (P. L. H. No. 3364.)**24723.** *Südliche Russische lucern.* (P. L. H. No. 3365.)**24724.** *Nordliche Russische lucern.* (P. L. H. No. 3366.)**24725.** *Spanische lucern.* (P. L. H. No. 3367.)**24726.** *Turkestanische lucern.* (P. L. H. No. 3368.)**24727.** *Deutsche Luzerne aus Baden.* (P. L. H. No. 3369.)**24728.** *Deutsche Luzerne aus Baden.* (P. L. H. No. 3370.)**24729.** *Ungarische lucern.* (P. L. H. No. 3371.)**24730.** *Süd-Russische lucern.* Naturell. (P. L. H. No. 3372.)**24731.** *Süd-Russische lucern.* Gereinigt. (P. L. H. No. 3373.)**24732.** *Russische Luzerne—Nord-Russische.* (P. L. H. No. 3374.)



**24717 to 24741—Continued.****24717 to 24736—Continued.****24733.** *Alt-Fränkische* lucern. (P. L. H. No. 3375.)**24734.** *Provencer* lucern. (P. L. H. No. 3376.)**24735.** *Italienische* lucern. (P. L. H. No. 3377.)**24736.** *Spanische* lucern. (P. L. H. No. 3378.)**24737.** *MEDICAGO SATIVA VARIA* (Mart) Urb.**Sand lucern.***Böhmische* sand lucern. (P. L. H. No. 3379.)**24738 to 24740.** *MEDICAGO SATIVA* L.**Alfalfa.****24738.** *Turkestanische* lucern. (P. L. H. No. 3380.)**24739.** *Turkestanische* lucern. (P. L. H. No. 3381.)**24740.** *Nord-Italienische* lucern. (P. L. H. No. 3382.)**24741.** *MEDICAGO SATIVA VARIA* (Mart) Urb.**Sand lucern.***Böhmische* sand lucern. (P. L. H. No. 3383.)**24742. CAJAN INDICUM Spreng.**

From Biloxi, Miss. Grown by Prof. S. M. Tracy, special agent. Received February 16, 1909.

"Purple seed. Original seed from Cuba. Not as early as S. P. I. No. 24601." (Tracy.)

**24753 to 24755.**

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Department of Agriculture. Received February 19, 1909.

The following seeds:

**24753.** *ATALANTIA BILOCULARIS* (Roxb.) Wall. (*LIMONIA BILOCULARIS* Roxb.)

For use in citrus breeding work.

*Distribution.*—A native of the southeastern part of China, extending to the islands of Hainan and Formosa.

**24754.** *NEPHELIUM MUTABILE* Blume.

*Distribution.*—A native of the Malay Peninsula and of the islands of Java and Borneo.

**24755.** *GLYCOSMIS PENTAPHYLLA* (Retz.) Correa.

*Distribution.*—Throughout tropical and subtropical Himalaya, ascending to 7,000 feet in Sikkim; also in southern China, in the Philippines, and in northeastern Australia.

**24756. QUERCUS SUBER L.****Cork oak.**

From Seville, Spain. Presented by Mr. Peter Campbell, president of the Nairn Linoleum Company, Kearney, N. J. Received February 19, 1909.

Acorns for propagating young trees, to be used in acclimatization experiments. See S. P. I. No. 3039 for description.

*Distribution.*—A native of the shores of the Mediterranean Sea, in Spain, France, Corsica, Sardinia, Italy, Sicily, and northern Africa. Cultivated in India and in California.

**24757 and 24758. MEDICAGO spp.**

From Bavaria, Germany. Presented by Mr. John S. Haas, with S. B. Bing Sons, Nuremberg, Germany, who procured the seed from Mr. George Liebermann, Nuremberg, Germany, at the request of Mr. J. M. Westgate. Received February 15 and 18, 1909.

Seeds of the following:

**24757. MEDICAGO SATIVA VARIA** (Mart.) Urb.

**Sand lucern.**

**24758. MEDICAGO SATIVA L.**

**Alfalfa.**

*Provence.*

**24759 to 24761. PHYLLOSTACHYS spp.**

**Bamboo.**

From Nagasaki, Japan. Purchased from Japanese bamboo growers by Mr. William D. Hills, agricultural explorer. Received at the Plant Introduction Garden, Chico, Cal., February 9, 1909.

"This importation of the three most valuable Japanese timber bamboos was made for the planting, on a larger scale than any hitherto yet attempted, of experimental bamboo groves in Florida, Louisiana, and California, in order that the feasibility of growing them on a commercial scale might be definitely determined." (*W. Fischer.*)

**24759. PHYLLOSTACHYS MITIS** (Lour.) Riviere.

**Moso.**

"This is the great edible bamboo of China and Japan and the largest of the hardy species, the culms attaining a maximum height of 70 to 80 feet and a diameter of 6 to 8 inches. It may readily be distinguished from the *Madake*, the next largest species, by the comparatively shorter internodes, the gentle curving of the culm just after it leaves the ground, and by the broad-based pseudophyll, which tapers to a point with the fringe of hairs on the sheath near its base." (*W. Fischer.*) See No. 12178 for previous introduction.

**24760. PHYLLOSTACHYS QUILLOI** Riviere.

**Madake.**

"The great timber bamboo of China and Japan and the second largest in size, the culms attaining a maximum height of 60 or 70 feet and a diameter of 6 inches. Besides the proportionately longer internodes and the habit of the culm in rising straight from the rhizome it is distinguished from the *Moso* by the wavy outline of the pseudophyll and by the more pronounced purple or reddish blotches on the sheath. This species is considered somewhat more hardy than *P. mitis*; the rhizome is more vigorously spreading, and the wood is harder. It is the most useful of the East Asiatic bamboos." (*W. Fischer.*) See No. 12180 for previous introduction.

**24761. PHYLLOSTACHYS HENONIS** Mitford.

**Hachiku.**

"Next in importance and smaller than the two preceding species, with a height of from 30 to 40 feet and a diameter of from 3 to 4 inches. The sheath has fine lines, forming purple markings but no blotches. The stem nodes are flatter than those of the *Madake*, the culms are thinner walled, and the sprouts are produced earlier." (*W. Fischer.*) See No. 12177 for previous introduction.

**24762. SCLEROCARYA CAFFRA** Sond.

**Morula.**

From Pretoria, Transvaal, South Africa. Presented by Prof. J. Burt Davy, government agrostologist and botanist, Department of Agriculture. Received March 1, 1909.

Seed of a tree with compound, alternate, unequally pinnate leaves clustered at the ends of the branches. The flowers, borne in spicate racemes, are one-fourth inch in diameter, with recurved petals. The fruit is a two-seeded drupe, about the size of a small walnut, with an acid and resinous pulp. The thick, oily cotyledons are eaten in times of famine.

*Distribution.*—A native of Africa, found near Lake Nyassa and other localities in the Zambezi Valley, in the Macalisberg Mountains, and in Cape Colony.

**24763. INDIGOFERA SUBULATA Vahl.**

From Kingston, Jamaica. Presented by Mr. William Harris, superintendent of public gardens, Department of Agriculture, Hope Gardens. Received February 23, 1909.

Seeds.

*Distribution.*—Found in both the East and West Indies, in Mexico, and on the Florida keys; in Upper Guinea and Senegambia, in Africa; and on the plains of the western peninsula of India and in Ceylon.

**24766. STIZOLOBIUM sp.****Florida velvet bean.**

From Biloxi, Miss. Grown by Prof. S. M. Tracy, special agent. Received February 25, 1909.

White. "A variety of the Florida velvet bean with white or nearly white seeds. Limited experience with it indicates that it is more prolific than the ordinary velvet bean. Grown from S. P. I. No. 22923." (*C. V. Piper.*)

**24767. MEDICAGO SATIVA L.****Alfalfa.**

From Tauberbischofsheim, Baden, Germany. Secured from Landwirtschaftliches Lagerhaus für das Frankenland, through Mr. Charles J. Brand. Received February 11, 1909.

"*Alt-Deutsche Fränkische* lucern. The chief area of production of this strain of alfalfa is the district known as the Taubergrund, in northern Baden and Württemberg and western Bavaria. The Taubergrund includes practically the whole drainage basin of the Tauber, a short stream that rises in the heights of Franconia and empties into the Main near Wertheim. The seed is also produced to some extent in the Neckarthal of Baden and Württemberg.

"Tauberbischofsheim, the source of the present sample, is only about six miles distant from Kilsheim, the original home of Wendelin Grimm, who brought the now well-known *Grimm* alfalfa to Minnesota in 1857. At the request of the writer, Mr. Ludwig Keller, of Oberschüpf, Baden, made some inquiries into the history of *Old German Franconian* alfalfa. The following, in free translation, is quoted from his report: 'This lucern was probably introduced into this country (Germany) at a very early time; it has adapted itself to the existing local conditions and has developed into a special strain of a certain constancy. Doubtless it is the same alfalfa that Farmer Grimm took with him to America. No other form is cultivated in our section on account of the superiority of this one.' (P. L. H. No. 3385.)" (*Brand.*)

**24768 and 24769. GARCINIA spp.**

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Department of Agriculture. Received February 27, 1909.

Seeds of the following:

**24768. GARCINIA MANGOSTANA L.**

*Distribution.*—A small native tree of southern Tenasserim and the Malay Peninsula, in India, and of the Malay Archipelago. Cultivated in Ceylon and in the Madras Presidency and in Trinidad and Jamaica in the West Indies.

**24769. GARCINIA COWA Roxb. (?)**

For experiments in grafting the mangosteen.

*Distribution.*—A native tree of India, extending from the hills of eastern Bengal, through Assam and Burma, and to the Andaman Islands.

**24770. CHAYOTA EDULIS Jacq.****Chayote.**

From Mayaguez, P. R. Presented by Mr. D. W. May, Agricultural Experiment Station. Received February 27, 1909.

A medium-sized, smooth, pale-green variety, almost white; practically spineless. Secured for the purpose of carrying on experiments in the South with a view to encouraging its culture for the market. For distribution of this species see No. 24671.

**24771 to 24819.**

A collection of seeds and cuttings. Received through Prof. N. E. Hansen, of the Agricultural Experiment Station, Brookings, S. Dak., while traveling as an agricultural explorer for the Department of Agriculture, December 3, 1908.

**24771 to 24793. VITIS VINIFERA L.****Grape.**

"(Nos. 196 to 218.) A collection of native table and raisin grapes of central Asia grown by the Mohammedans from time immemorial. In recent years the manufacture of wine has assumed large proportions, since the conquest of the natives. The best variety is probably the *Maskah*, Nos. 197, 199, 209, and 218 (S. P. I. Nos. 24772, 24774, 24784, and 24793); it may prove to be the largest grape in cultivation. The last two or three years the *Maskah* has found its way to St. Petersburg markets, since the completion of the Orenburg-Tashkend Railway, where it caused a great sensation and sold for a much higher price than the largest grapes shipped from France, Germany, and the Crimea. All these vines should be tested as individuals till fruited, as the nomenclature is uncertain in these native vineyards." (Hansen.)

**24794. POPULUS sp.****Poplar.**

"(No. 219.) Cuttings of a native poplar of upright habit like the Lombardy poplar. From Tashkend, Turkestan." (Hansen.)

**24795. MALUS SYLVESTRIS Mill.****Apple.**

"(No. 220.) Scions of *Pyrus malus* (*Malus sylvestris*) *Nananganica*, a red-fleshed apple, native of eastern Turkestan, adjoining the Pamir plateau." (Hansen.)

**24796. MALUS SYLVESTRIS Mill.****Apple.**

"(No. 221.) *Napoleon* apple, a new French variety of delicious flavor. Scions obtained at Tashkend, Turkestan." (Hansen.)

**24797. PRUNUS ARMENIACA L.****Apricot.**

"(No. 219.) Scions of native apricot from Tashkend, Turkestan." (Hansen.)

**24798. PUNICA GRANATUM L.****Pomegranate.**

"(No. 223.) Tree of choice native variety grown at Tiflis, Transcaucasia." (Hansen.)

**24799. PUNICA GRANATUM L.****Pomegranate.**

"(No. 224.) Plant of a native variety grown at Tiflis, Transcaucasia." (Hansen.)

**24800. ELAEAGNUS ANGUSTIFOLIA L.****Oleaster.**

"(No. 225.) A large-fruited variety from Tiflis, Transcaucasia." (Hansen.)

**24801. RIBES sp.****Currant.**

"(No. 226.) Native currant from Tiflis, Transcaucasia." (Hansen.)

**24802. MALUS SYLVESTRIS Mill.****Apple.**

"(No. 227.) Native apple *Schachalma*, from Tiflis, Transcaucasia." (Hansen.)

**24803. ELAEAGNUS ANGUSTIFOLIA L.****Oleaster.**

"(No. 228.) A large-fruited variety from Tiflis, Transcaucasia." (Hansen.)

## 24771 to 24819—Continued.

## 24804. MORUS NIGRA L.

Black mulberry.

"(No. 229.) A choice-fruited native variety from Tiflis, Transcaucasia." (Hansen.)

*Distribution.*—A native of southern Russia in the vicinity of the Caucasus Mountains and the Caspian Sea; also cultivated in warm climates.

## 24805. MALUS SYLVESTRIS Mill.

Apple.

"(No. 230.) A native apple *Paschalma*, from Tiflis, Transcaucasia." (Hansen.)

## 24806. AMYGDALUS PERSICA L.

Peach.

"(No. 251.) Peculiar native, flat, small peach pits, from Tashkend, Turkestan." (Hansen.)

## 24807. AMYGDALUS PERSICA L.

Peach.

"(No. 252.) Native peach pits from Tashkend, Turkestan." (Hansen.)

## 24808. AMYGDALUS NANA L.

Russian almond.

"(No. 253.) Variety *Spinossissima*. Native dwarf almond from Alatau Mountains, 80 versts from Tashkend, Turkestan. See No. 257 (S. P. I. No. 24809)." (Hansen.)

## 24809. AMYGDALUS NANA L.

Russian almond.

"(No. 257.) Variety *Petronnikow*. Dwarf native almond from Chingan Mountains, 90 versts from Tashkend, Turkestan. See No. 253 (S. P. I. No. 24808)." (Hansen.)

## 24810. CHAETOCHLOA ITALICA (L.) Scribn.

Millet.

"(No. 258.) Originally from Manchuria. Seed grown at experiment station in Golodnaya or Hunger steppe, Turkestan." (Hansen.)

## 24811. MEDICAGO SATIVA L.

Alfalfa.

"(No. 259.) The '*Turcestanica*' is a name given by the Russian agronomists to distinguish the alfalfa native of Turkestan from that obtained from other regions. The present sample is as grown in Golodnaya or Hunger steppe, Turkestan. Since I brought the first lot of Turkestan alfalfa to the United States in the spring of 1908 an enormous export of alfalfa seed has sprung up in Turkestan, especially from the Khanate of Khiva. It was stated to me in Turkestan in December, 1908, that fully 200,000 pood go from Khiva each year (a Russian pood is 32 pounds avoirdupois); also that perhaps 100,000 pood go from the rest of Turkestan. In Khiva the multitude of camels which eat the dry fodder left after the seed is removed makes it possible to raise the seed cheaper at Khiva. Most of the seed goes to South America, but a considerable and steadily increasing lot goes to North America. Some of the seed sold commercially does not come from Turkestan, but it is said comes from farther south. It is to be hoped that the alfalfa seed business will be better handled in the future and that each strain is correctly labeled." (Hansen.)

## 24812. ANDROPOGON SORGHUM (L.) Brot.

Durra.

"(No. 249.) '*Dshu-gah-rah*,' from Khokand region, Turkestan, raised in the Golodnaya or Hunger steppe, between Tashkend and Samarkand, Turkestan. Extensively used for stock feed and also for human food." (Hansen.)

" '*Dzhugara*,' similar to S. P. I. No. 24553. Base of some glumes black." (Carleton R. Ball.)



## 24771 to 24819—Continued.

## 24813. PHASEOLUS RADIATUS L.

Mung bean.

"(No. 250.) Green gram as grown at Tashkend, near northern limit of cotton culture in Turkestan. Promising for culinary use and as a cover or catch crop in very dry, hot regions. It is largely grown in Turkestan under conditions similar to those obtained in New Mexico and Arizona." (*Hansen.*)

Both the green-seeded and black-seeded variety were in this lot.

## 24814. MEDICAGO ARBOREA L.

Tree alfalfa.

"(No. 256.) Seed from Vilmorin-Andrieux & Co., Paris, France, purchased February 2, 1909, the day before I took the steamer for America. Seed as grown in southern France. There appears to be a limited call for the seed in southern France, southern Italy, and northern Africa as a plant for very dry, stony places." (*Hansen.*)

*Distribution.*—A native of southern Europe, being found in Italy and Greece.

## 24815. AVENA SATIVA L.

Oat.

"(No. 74.)"

## 24816. ERAGROSTIS ABYSSINICA (Jacq.) Schrad.

Teff.

"(No. 231.) A white-seeded form of a grass from Abyssinia, deemed valuable for dry regions. This sample was grown at the experiment station in Golodnaya or Hunger steppe, Turkestan." (*Hansen.*) See S. P. I. No. 24887 for distribution of this species.

## 24817. TRIFOLIUM LUPINASTER L.

"(No. 68.) A native clover common on the open steppe over an immense area of Siberia, extending north to the Arctic Circle. For the severest sections only. This lot was gathered near Obb, western Siberia, where the Obi River crosses the Siberian railway. Leaflets 5, like a lupine, whence the name *lupinaster*." (*Hansen.*)

## 24818. TRIFOLIUM LUPINASTER L.

See S. P. I. No. 24458 for distribution of this species.

## 24819. TRITICUM AESTIVUM L.

Wheat.

"(No. 77?.) Sample from Iresnoye village near Obb, Tomsk Province, at intersection of Obi River and Siberian railway, western Siberia. A good productive variety in this region." (*Hansen.*)

## 24825. PUNICA GRANATUM L.

Pomegranate.

From La Tour-de-Peilz, Vaud, Switzerland. Purchased from Mr. J. Brunner, at the request of Mr. O. F. Sillig, of this Department. Received March 9, 1909.

Plants and cuttings.

*Legrellei.* "A type of pomegranate remarkable for its vigor and hardiness. Supposed to be the only variety with double flowers which will flower and sometimes ripen its fruits in a climate like that of central France and even near Paris, provided that it is planted in a favorable exposure. Petals salmon-red, lined with white, the tips sometimes spotted or striated with white." (*Sillig.*)



**24828 to 24833. GOSYPIUM BARBADENSE L.****Cotton.**

From Egypt. Presented by F. Fletcher, esq., School of Agriculture, Ghizeh, Egypt, at the request of Mr. T. H. Kearney. Received February 27, 1909.

**24828.** *Ashmuni.***24831.** *Sultani.***24829.** *Mit Afifi.***24832.** *Jannovitch.***24830.** *Abbasi.***24833.** *Nubari.*

These cottons were obtained for Mr. T. H. Kearney's experimental work in the Southwest.

**24839 and 24840. GLYCINE HISPIDA (Moench) Maxim. Soy bean.**

Grown at the Arlington Experimental Farm, Virginia, from seed obtained from Dr. S. P. Barchet, Shanghai, China, in 1906.

Seed of the following:

**24839.** Greenish. Grown in 1908 under temporary numbers 0578 and 0579, which proved to be identical.

**24840.** Yellow. Grown in 1908 under temporary number 0580.

**24845 to 24851.**

From China. Received through Mr. E. H. Wilson, of the Arnold Arboretum, Jamaica Plain, Mass., in cooperation with this Department, February 4, 1909.

The following seeds:

**24845.** *TRITICUM AESTIVUM L.***Wheat.**

"(No. 1381.) The wheat commonly cultivated around Tاتienlu, China, at altitudes between 8,000 and 11,000 feet." (*Wilson.*)

**24846 and 24847.** *AVENA NUDA L.***Oat.**

"(Nos. 1382 and 1382a.) These are the oats cultivated in the neighborhood of Tاتienlu, China, at from 6,500 to 11,000 feet altitude." (*Wilson.*)

**24848.** *HORDEUM VULGARE HIMALAYENSE* Rittig.**Barley.**

*Distribution.*—Cultivated in the mountains of the Chinese Empire, at elevations from 9,000 to 14,000 feet.

**24849.** *HORDEUM VULGARE VIOLACEUM* Koern.**Barley.**

"(Nos. 1379 and 1380.) These are barleys cultivated in the highlands west of Tاتienlu, China. No. 1380 (S. P. I. No. 24849), a purple kind, is capable of cultivation at greater altitudes than any other cereal both in west and north-west Szechwan, China. Its belt is 11,000 to 13,000 feet." (*Wilson.*)

*Distribution.*—Cultivated in the mountains of the Chinese Empire. Also reported as cultivated in Sweden.

**24850.** *FAGOPYRUM TATARICUM (L.) Gaertn.***Buckwheat.**

"(No. 1383.) *Ku ch'iao* is the buckwheat commonly cultivated to the west and southeast of Tاتienlu, China." (*Wilson.*)

*Distribution.*—Cultivated in the mountains of China, and in India and to some extent in Europe.

**24851.** *RHEUM* sp.**Rhubarb.**

"(No. 1247.) This medicinal rhubarb is fairly common in the uplands to the west and southeast of Tاتienlu, China, at altitudes between 10,000 and 12,000 feet. It prefers moist, rocky ground. I have sent it that you may compare it with the rhubarb sent from Hupeh, China, last year (S. P. I. No. 21319). Personally I consider the plants identical." (*Wilson.*)

**24853 to 24855.**

From Hangchow, Chekiang, China. Presented by Rev. W. S. Sweet. Received March 5, 1909.

The following seeds, notes by Mr. Sweet:

**24853.** CANNABIS SATIVA L.

**Hemp.**

"This is the Stewart hemp grown in Kentucky."

**24854.** CORCHORUS CAPSULARIS L.

**Jute.**

**24855.** SESAMUM ORIENTALE L.

**Sesame.**

"Used here on cakes for food."

**24856 to 24858.**

From Florence, Italy. Presented by the Comizio Agrario di Firenze, Sezione Consorzio Agrario per l'Acquisito di Materie Utili in Agricoltura, through Mr. Charles J. Brand. Received February 27, 1909.

The following seeds:

**24856 and 24857.** ONOBRYCHIS VICIAEFOLIA Scop. (ONOBRYCHIS SATIVA Lam.) **Lupinella.**

**24856.** (P. L. H. No. 3389.)

**24857.** (P. L. H. No. 3390.)

"*Lupinella sgusciata.*"

*Distribution.*—An herbaceous perennial, native to Europe and extending into Asia. Occasionally used in the southern part of the United States as a forage crop.

**24858.** MEDICAGO SATIVA L.

**Alfalfa.**

"*Herba medica.*" (P. L. H. No. 3391.)

**24859. MEDICAGO SATIVA L.**

**Alfalfa.**

From Bridgeport, Kans. Purchased from Mr. Carl Wheeler. Received March 6, 1909.

"Variegated alfalfa, grown in 1908 without irrigation, at Bridgeport, Kans., from a field seeded in 1891 and which since has suffered no deterioration in stand. The field also produced good crops of seed in 1905, 1906, and 1907." (*J. M. Westgate.*)

**24876. ALECTRYON EXCELSUM Gaertn.**

**Titoki.**

From Wellington, New Zealand. Presented by Mr. T. E. Donne, secretary, Department of Industries and Commerce. Received March 8, 1909.

Seeds.

"The titoki is a handsome evergreen tree, from 40 to 60 feet high, with a trunk sometimes 3 feet in diameter, but usually smaller.

"The fruit is both singular and handsome; when ripe it is one-third inch long, and almost woody, with a flattened crest on the upper portion, terminating in a spur-like prominence on one side; when the seed is ripe the fruit vessel becomes ruptured transversely, but not along any definite line. It is one celled, and contains a single pear-shaped, black seed, which is surrounded by a bright-scarlet, fleshy cup, termed an 'aril,' and has a granulated surface; the fiery scarlet of the aril and the glossy jet-black seed form a pleasing contrast, which is harmonized by the deep-russet pubescence of the fruit vessel.

"The flowers are produced during the months of November and December; the fruit requires a year to arrive at maturity, so that flowers and ripe fruit may be found on the tree at the same time.

**24876—Continued.**

*Properties and uses.*—Although the titoki does not afford a durable timber under exposure, it is justly valued on account of its great strength, toughness, and elasticity, while it is straight in the grain, even, compact, and easily worked; it is of light reddish color and destitute of figure.

"It is suitable for purposes which demand great strength and elasticity, but do not involve any great amount of exposure to the weather. It is highly valued for bullock yokes; with the exception of mangiao it is perhaps the best of all New Zealand timbers for that purpose; it is excellent for ax handles and for the handles of carpenters' tools, for singletrees, for light framing for machinery, and for some purposes of the cabinetmaker; but is most highly esteemed by the wheelwright and coach builder, being used for light spokes, fellies, hubs, panels, and bent ware. It is also suitable for the manufacture of the woodwork of many kinds of agricultural implements.

*Distribution.*—*Alectryon* comprises only a single species, which is endemic in New Zealand. It is common in lowland woods or on their margins throughout the North Island, and, crossing Cook Strait, finds its southern limit on Banks Peninsula, on the east coast, and between Hokitika and Ross, on the west coast.

"Although essentially a lowland plant, it ascends from the sea level to upward of 2,000 feet." (*The Forest Flora of New Zealand*," by Thomas W. Kirk, F. L. S.)

"It may be of interest to know that this was introduced from New Zealand to California at least thirty-five years ago, and there are trees bearing regularly at Berkeley and elsewhere in northern California; but it is such a slow grower that nobody ever paid much attention to it." (*Extract from letter of Dr. F. Franceschi, April 14, 1909.*)

**24878. ANDROPOGON SORGHUM (L.) Brot.****Milo.**

From Liberal, Kans. Purchased from Mr. John L. Boles. Received March 8, 1909.

"Grown from G. I. No. 235, selected originally for earliness, dwarfness, uniformity, and productiveness." (*Carleton R. Ball.*)

**24879. PANICUM DIVARICATUM L. (?)**

From Surinam, Dutch Guiana. Presented by Mr. J. R. Wigman, director, Botanic Garden, Paramaribo, Surinam. Received March 9, 1909.

**24880 to 24911.**

From Abyssinia. Presented by Mr. Hubert S. Smiley, Drumalis, Larne, Antrim County, Ireland. Received March 2, 1909.

The following seeds:

**24880. HORDEUM DISTICHON L.****Barley.**

Two rowed, white. "Grown in January on any ground; irrigation necessary."

**24881. HORDEUM sp.****Barley.**

Two rowed, white. "Grown in June on any ground except black earth."

**24882. HORDEUM sp.****Barley.**

Two rowed, black. "Grown in June on high land."

**24883. TRITICUM sp.****Wheat.**

Black. "Grown in June and August on high and low land."

**24884. TRITICUM AESTIVUM L.****Wheat.**

White. "Grown in July on the plateau."

## 24880 to 24911—Continued.

24885. *TRITICUM AESTIVUM* L. Wheat.  
 Purple. "Grown in July on any ground."
24886. *TRITICUM* sp. Wheat.  
 "Grown in August on clay ground."
- 24887 and 24888. *ERAGROSTIS ABYSSINICA* (Jacq.) Schrad. Teff.  
 24887. Brown. 24888. White.  
*Distribution*.—A native of the northeastern part of Africa, being cultivated in the mountains of Abyssinia and also in India.
- 24889 and 24890. *CICER ARIETINUM* L. Chick-pea.  
 24889. Brown. 24890. Black.
- 24891 and 24892. *LINUM USITATISSIMUM* L. Flax.  
 24891. Brown. 24892. White.
- 24893 to 24895. *PISUM ARVENSE* L. Field pea.  
 24893. Brown. 24895. White.  
 24894. Black.
24896. *ZEА MAYS* L. Corn.  
 "Grown on low ground."
24897. *ANDROPOGON SORGHUM* (L.) Brot. Durra.  
 "Grown in March on low ground."  
 "A durra with small red seeds, much resembling red kafir seeds; apparently identical with No. 12373." (*Carleton R. Ball.*)
24898. *TRIGONELLA FOENUM-GRÆCUM* L. Fenugreek.  
 "Grown in July on any ground."
24899. *ANDROPOGON SORGHUM* (L.) Brot. Durra.  
 "Brown-seeded variety; seems to be identical with No. 11967." (*Carleton R. Ball.*)
24900. *VICIA FABA* L. Horse bean.  
 "Grown in June on heavy brown ground."
24901. *HORDEUM VULGARE COELESTE* L. Barley.  
 Six-rowed hull-less white and black-seeded variety.
24902. *GUIZOTIA ABYSSINICA* (L. f.) H. Cass.  
 "A black pulse for making oil. Grown in July on clay ground."  
*Distribution*.—A native and cultivated herbaceous plant of tropical Africa; also cultivated in India.
24903. *TRITICUM MONOCOCCUM* L. Emmer.  
 "Grown in June on any ground."
24904. *LENS ESCULENTA* Moench. Lentil.
24905. *CORIANDRUM SATIVUM* L. Coriander.
24906. *PHASEOLUS VULGARIS* L. Bean.  
 White.
24907. *PIMPINELLA ANISUM* L. Anise.
24908. *CARTHAMUS TINCTORIUS* L. Safflower.  
 "For making oil. Grown in July."

**24880 to 24911—Continued.****24909. NIGELLA SATIVA L.**

*Distribution.*—A native of the southern part of Europe and cultivated in the Mediterranean region and in India.

**24910. ANDROPOGON SORGHUM (L.) Brot.****Durra.**

"White. Probably identical with some of the Abyssinian sorghums imported and grown in 1904." (*Carleton R. Ball.*)

**24911. HORDEUM sp.****Barley.**

Two-rowed black variety. "Grown in January in very cold country."

**24912 to 24914. DOLICHOS LABLAB L.****Bonavist bean.**

From Herradura, Cuba. Presented by Mr. F. S. Earle. Received March 8, 1909.

Seeds of the following:

**24912. White.****24914. Black.****24913. Brown.****24915 and 24916. AMYGDALUS PERSICA L.****Peach.**

From about six miles out from Canton, China. Procured by Mr. G. W. Groff.

Received at the Plant Introduction Garden, Chico, Cal., February, 1909.

Grafts of the following:

**24915. Hung wat to** (red-stone peach).**24916. Paak wat to** (white-stone peach).

"The *Hung wat to* is a new variety and so recognized by the Chinese. From what I can gather they believe the *Paak wat to* to be the best, but have some trees of the *Hung wat to*. The *Hung wat to* seems to blossom much quicker than the *Paak wat to*." (*Groff.*)

**24917. CORCHORUS CAPSULARIS L.**

From Shanghai, China. Presented by Rev. J. M. W. Farnham. Received March 9, 1909.

**24921. ROSA sp.****Rose.**

From Battle Mountain, Nev. Presented by Mrs. W. C. Hancock. Received March 12, 1909.

"A small double rose, very floriferous, resembling the Chinese yellow rose; plant medium tall, bushy, very hardy." (*Frank N. Meyer.*)

**24922. STIZOLOBIUM sp.**

From Saigon, Cochin China. Presented by the Botanical Garden of Saigon, through Mr. Jacob E. Conner, United States consul. Received March 20, 1909.

**24923. MEDICAGO SATIVA L.****Alfalfa.**

From Heilbronn, Württemberg, Germany. Purchased from Mr. Heinrich Becker, at the request of Mr. Charles J. Brand. Received March 12, 1909.

*Alt-Deutsche Fränkische* lucern.

**24924. HIBISCUS sp.**

From Oporto, Portugal. Presented by Baron de Soutellinho, 115 Entre Quintas. Received March 11, 1909.

"A pretty pink Hibiscus. It was a hybrid raised by me of *Hibiscus coccineus* Walt. × *moscheutos* L. The culture is the same as for *H. coccineus* Walt. It is a deciduous perennial." (*Soutellinho.*)

**24925. POLYGONUM BISTORTA L.**

From Berlin, Germany. Presented by Prof. Dr. A. Engler, Director of the Royal Botanic Garden. Received March 12, 1909.

"The root of this species of *Polygonum* is reported to contain from 13.5 to 21 per cent of tannin. Introduced to test its availability as an agricultural crop for tannin production." (*W. W. Stockberger.*)

*Distribution.*—Found throughout the temperate region of Europe and Asia, extending into alpine and arctic regions.

**24926. TRIFOLIUM PRATENSE L.****Red clover.**

From Knoxville, Tenn. Received through Mr. S. M. Bain, special agent, March 3, 1909.

"This seed is from plants which successfully resisted the attacks of *Colletotrichum trifolii* Bain. This disease has materially affected the successful production of clover in Tennessee and elsewhere." (*J. M. Westgate.*)

**24927. MANGIFERA INDICA L.****Mango.**

From Cavite, Luzon, P. I. Presented by Mr. Donald MacIntyre, Moanalua Gardens, Honolulu, Hawaii Territory. Received March 3, 1909.

*Caraboa.* The same remarks apply to this as to No. 24170.

*Distribution.*—A large tree, native to the tropical region of India and cultivated generally in the Tropics. In America cultivated in the West Indies, in tropical Mexico, and in southern Florida and southern California.

**24928 to 24933.**

From Riedöschingen, Germany. Purchased from Mr. Conrad Boehler, Alma, Nebr., through Mr. J. M. Westgate. Received February 26, 1909.

The following seeds (notes by Mr. Boehler):

**24928. MEDICAGO SATIVA L.****Alfalfa.**

*Provence.* This is one of the best and most productive fodder plants of Germany, lasting eight to ten years.

**24929. TRIFOLIUM PRATENSE L.****Red clover.**

The standard legume hay crop of Germany.

**24930. TRIFOLIUM REPENS L.****White clover.**

This clover, harvested while in bloom, produces the well-known calf hay.

**24931. ONOBRYCHIS VICIAEFOLIA Scop.****Sainfoin.**

Esparsette, or sainfoin, produces good, sweet hay. Lasts from six to eight years.

**24932. VICIA SATIVA L.****Common vetch.**

Especially suitable for green manuring on poor soils. May be seeded alone or with oats for green fodder.

**24933. MEDICAGO LUPULINA L.**

An excellent weed destroyer; produces a high yield, but a rather rough fodder. It can be cut but once.

**24935 and 24936. STIZOLOBIUM spp.**

From Ceylon. Presented by Mr. C. Driberg, secretary, Ceylon Agricultural Society, Colombo, Ceylon. Received March 13, 1909.

Seeds of each of the following:

**24935.** Small, black.

**24936.** Gray.



**24938. CHAYOTA EDULIS Jacq.****Chayote.**

From Los Angeles, Cal. Presented by Mr. M. E. Cheney. Received March 15, 1909.

A medium-sized, pear-shaped, white variety, secured for cooperative work with the State Experiment Station, Baton Rouge, La. See No. 24671 for distribution of this species.

**24939. PHASEOLUS SEMIERECTUS L.**

From Belize, British Honduras. Presented by Mr. E. J. F. Campbell, superintendent, Botanic Station. Received February 24, 1909.

See No. 24639 for distribution of this species.

**24940. PISUM ARVENSE L.****Field pea.**

From Guelph, Ontario, Canada. Presented by Prof. C. A. Zavitz, Ontario Agricultural College. Received March 16, 1909.

*Early Brittain.* An extremely promising variety, recently introduced into Ontario.

**24956 to 24997. ANDROPOGON SORGHUM (L.) Brot.**

Grown on the government experimental farm at Amarillo, Tex., by Mr. John F. Ross, season of 1908. Received March, 1909.

The following seeds:

**24956 to 24964.****Milo.**

<b>24956.</b> (G. I. No. 223.)	<b>24961.</b> (G. I. No. 231.)
<b>24957.</b> (G. I. No. 224.)	<b>24962.</b> (G. I. No. 232.)
<b>24958.</b> (G. I. No. 227.)	<b>24963.</b> (G. I. No. 234.)
<b>24959.</b> (G. I. No. 229.)	<b>24964.</b> (G. I. No. 331.)
<b>24960.</b> (G. I. No. 230.)	

Selected since 1905 for dwarf stature, erect heads, productiveness, and other desirable characteristics by Messrs. A. H. Leidigh and Carleton R. Ball.

**24965 to 24970.****Dwarf milo.**

<b>24965.</b> (G. I. No. 149A.)	<b>24968.</b> (G. I. No. 236.)
<b>24966.</b> (G. I. No. 149B.)	<b>24969.</b> (G. I. No. 332A.)
<b>24967.</b> (G. I. No. 149C.)	<b>24970.</b> (G. I. No. 332B.)

Selected since 1905 for dwarf stature, erect heads, productiveness, and other desirable characteristics by Messrs. A. H. Leidigh and Carleton R. Ball.

**24971 to 24984.****Blackhull kafir.**

<b>24971.</b> (G. I. No. 71.)	<b>24978.</b> (G. I. No. 335.)
<b>24972.</b> (G. I. No. 204.)	<b>24979.</b> (G. I. No. 336.)
<b>24973.</b> (G. I. No. 205.)	<b>24980.</b> (G. I. No. 337.)
<b>24974.</b> (G. I. No. 206.)	<b>24981.</b> (G. I. No. 338.)
<b>24975.</b> (G. I. No. 207.)	<b>24982.</b> (G. I. No. 339.)
<b>24976.</b> (G. I. No. 210.)	<b>24983.</b> (G. I. No. 340.)
<b>24977.</b> (G. I. No. 333.)	<b>24984.</b> (G. I. No. 341.)

Selected since 1905 for dwarf stature, productiveness, and other desirable characteristics by Messrs. A. H. Leidigh and Carleton R. Ball.

**24956 to 24997—Continued.****24985 to 24989.****Red kafir.****24985.** (G. I. No. 34.)      **24988.** (G. I. No. 212.)**24986.** (G. I. No. 68.)      **24989.** (G. I. No. 215.)**24987.** (G. I. No. 69.)

Selected since 1905 for dwarf stature, productiveness, and other desirable characteristics by Messrs. A. H. Leidigh and Carleton R. Ball.

**24990 to 24995.****Brown kowliang.**

**24990.** (G. I. No. 122.) Improved by selection for dwarf stature, productiveness, etc., from S. P. I. No. 17922 by Mr. Carleton R. Ball.

**24991.** (G. I. No. 123.) Improved by selection for dwarf stature, productiveness, etc., from S. P. I. No. 17923 by Mr. Carleton R. Ball.

**24992.** (G. I. No. 171A.)      **24994.** (G. I. No. 171C.)

**24993.** (G. I. No. 171B.)

Improved by selection for dwarf stature, productiveness, etc., from S. P. I. No. 18518 by Mr. Carleton R. Ball.

**24995.** (G. I. No. 261.) Improved by selection for dwarf stature, productiveness, etc., from S. P. I. No. 20610 by Mr. Carleton R. Ball.

**24996 and 24997.****White durra.**

**24996.** (G. I. No. 27.) Originally from Algeria, through France. Improved by Mr. Carleton R. Ball through selection for erect heads, seed-holding power, etc.

**24997.** (G. I. No. 81.) Seed supposedly from Egypt; received from Austria. Improved by Mr. Carleton R. Ball through selection for erect heads, seed-holding power, etc.

**24998 and 24999.**

From Para, Brazil. Presented by Mr. George H. Pickerell, United States consul. Received February 23, 1909.

The following seeds:

**24998.** *VIROLA SURINAMENSIS* (Rol.) Warb.

*Distribution.*—A native of the Amazon Valley in Brazil, of Guiana, and of the West India Islands.

**24999.** *SAPINDUS SAPONARIA* L.

*Distribution.*—A small tree found on the Florida keys, in Jamaica, and in Brazil. Cultivated in southern Florida and southern California.

**25000. CAJAN INDICUM Spreng.**

From Mexico. Presented by Mr. Elmer Stearns, botanist, School of Agriculture, C. Juarez, Chihuahua, Mexico. Received March 17, 1909.

"This plant grows to about 20 feet high here in Mexico in the warmer regions; it might do all right in southern-California or the warmer belts farther north." (*Stearns.*)

**25001 to 25015.**

From near Bakuba, a distance of 9 hours from Bagdad, Turkey. Procured by Mr. William C. Magelssen, United States consul, Bagdad, Turkey, for Mr. T. H. Kearney's work in the Southwest. Received March 15, 1909.

The following cuttings:

**25001 to 25007. PUNICA GRANATUM L.****Pomegranate.**

**25001.** *Selimi*. "A vigorous and very beautiful tree; fruit very large (the largest pomegranate of all), weighing sometimes as much as 1 kilo; the skin is thin, sometimes bright red when ripe; crown small and short; pulp is melting, very thick, and of a very dark red. The seeds are thin and small. The taste is agreeable, slightly acid; the flavor is exquisite. The fruit is exquisite and of the very first quality; ripens in October. It is highly esteemed in the trade and will keep for a year." (*Kearney*.)

**25002.** *Hachiri* (indifferent). "Poor variety, blossoming much, but knotting little. Fruit average sized; skin thin, light green, tinged with pink. Pulp white, very sour, containing large seeds. The fruits, which are sold by the weight, are used as a condiment in the kitchen." (*Kearney*.)

**25003.** *Hilou Ahmar*.

**25004.** *Bila Hab* (seedless). "Obtained it is said by means of cuttings, the marrow of which is removed with a needle. The shrub is rather stubby, and bears little fruit. Fruit of average size, with light-green skin, almost white; pulp rosy colored, sweet, but flavorless and not luscious. In this pulp instead of seeds there is a white albumen, soft, watery, and without kernel, so that the fruit may be eaten entirely. This variety is rare and little sought after." (*Kearney*.)

**25005.** *Hilou Abiade* (sweet white). "Common tree, very fruitful; fruit rather large, thin skinned and of a light-green color; seeds elongated, white and with a tinge of pink. Pulp is luscious and sweet. This variety is common, but rather good." (*Kearney*.)

**25006.** *Roman Eswed* (black pomegranate). "Shrub with a reddish stem, longer boughs, and larger leaves than other varieties. Fruit of average size, round with flattened crown; bark rather thin, of a very dark-violet color. Pulp melting and of an agreeable, sourish-sweet taste. Excellent variety." (*Kearney*.)

**25007.** *Gourtmi*. "Very prolific tree; fruits small and growing in clusters at the end of the branches; the skin is thick, bright red and shiny. The seeds are rather large, with a sweet pulp. Indifferent variety." (*Kearney*.)

**25008 to 25015. VITIS VINIFERA L.****Grape.**

**25008.** *Erz Roumli*.

**25012.** *Ajmi*.

**25009.** *Kurdi*.

**25013.** *Chaweesh*.

**25010.** *Buhirzi*.

**25014.** *Chadeh Arabieh*.

**25011.** *Kishmishi*.

**25015.** *Deis-al-A'anze*.

"The *Deis-al-A'anze* (S. P. I. No. 25015) is said to be a very good variety, the *Buhirzi* (S. P. I. No. 25010) is early ripening, and the *Erz Roumli* (S. P. I. No. 25008) very rich yielding." (*Magelssen*.)

**25016 to 25021.**

From Khartum, Sudan. Presented by Mr. R. Hewison, Director of Agriculture and Lands, Sudan Government, at the request of Mr. C. V. Piper. Received March 16, 1909.

The following seeds (native names quoted):

**25016.** *VIGNA UNGUICULATA* (L.) Walp.

**Cowpea.**

"*Masri.*"

**25017.** *ANDROPOGON HALEPENSIS* (L.) Brot.

**Johnson grass.**

"*Garawi.*"

"A variety of Johnson grass without rootstocks. This is a thing I have been looking for for some time, and judging from its behavior at Chillicothe, Tex., I think we have something that is going to be of high value. It looks something like Johnson grass, but is entirely devoid of rootstocks, and therefore could be easily eradicated." (*C. V. Piper.*)

*Distribution.*—Apparently a native of southern Europe and Asia, but distributed as a weed and by cultivation generally throughout warm countries, extending north in the United States to southern Pennsylvania and Missouri.

**25018.** *DOLICHOS LABLAB* L.

**Bonavist bean.**

"*Kashrangague.*"

**25019.** *MEDICAGO SATIVA* L.

**Alfalfa.**

**25020.** *PENNISETUM AMERICANUM* (L.) Schum.

**Pearl millet.**

"*Dokhu.*"

*Distribution.*—Cultivated generally throughout the Tropics; used in the Southern States for the seed and grown farther north for fodder.

**25021.** *CAJAN INDICUM* Spreng.

"*Ads.*"

*Distribution.*—Probably a native of India, ascending to 6,000 feet in the Himalayas, and cultivated generally in the Tropics.

**25022. *MEDICAGO SATIVA* L.**

**Alfalfa.**

From Oberschüpf, Baden, Germany. Secured from Mr. Ludwig Keller, Oberschüpf, amt Boxberg, Baden, Germany, at the request of Mr. Charles J. Brand. Received March 11, 1909.

*Alt-Deutsche Fränkische lucern.*

**25068. *PELARGONIUM ODORATISSIMUM* (L.) Ait.**

**Geranium.**

From Algeria. Presented by Dr. L. Trabut, Government Botanist, Mustapha-Alger, Algeria. Received March 19, 1909.

"Cuttings of oil geranium cultivated in Algeria. This variety does not seed." (*Trabut.*)

This was procured for Dr. H. True's experiments in the production of rose geranium oil.

*Distribution.*—A native of the Cape of Good Hope; cultivated in Spain and Algeria.

**25079. *MEDICAGO SATIVA* L.**

**Alfalfa.**

From Grand Isle, Vt. Collected by Mr. N. Schmitz, summer of 1908.

"Seed from a single plant of alfalfa. This individual plant was growing under very undrained-soil conditions and local testimony indicated that this and associated scattering plants had withstood the unfavorable conditions present for eighteen years." (*J. M. Westgate.*)

**25080. ALEURITES CORDATA (Thunb.) Muell. Arg.****Japan wood oil.**

From Tokyo, Japan. Purchased from The Japan Seed and Plant Company (Limited). Received at Seattle, Wash., February 8, 1909. Received at Washington, D. C., March 23, 1909.

"This shipment of seeds was imported for acclimatization experiments and for the extraction of oil to be used in chemical and physical analyses for comparison with S. P. I. No. 25081.

"In Japan this species is most commonly known under the names *abura-giri* and *yama-giri*, meaning, respectively, oil-kiri and wild-kiri, *kiri* (*giri*) being the name for *Paulownia imperialis*, which it greatly resembles in its foliage. It is a tropical or semitropical plant and grown only in the provinces to the south of Tokyo (36° lat.). It is found also in Formosa, the coastal provinces of China as far inland as Chekiang, the Isle of Hainan, and sparingly in farther India and Cochin China, being indigenous probably to Japan and Formosa only.

"The seeds are very small compared with those of the other species of *Aleurites*, being about the size of large castor-oil seeds, which they very much resemble. The oil expressed from them, which serves chiefly as a drying oil, is comparable to the more abundant tung oil of China and to perilla oil, which is largely substituted for it in Japan, as it can be more cheaply grown. In Japan, as in China, the wood oil is grown on land not suited for general farming." (*W. Fischer.*)

**25081. ALEURITES FORDII Hemsl.****China wood oil.**

From Hankow, China. Purchased through Hon. William Martin, consul-general.

"This shipment of seeds was imported for the purpose of continuing on a large scale some experiments commenced four years ago in the acclimatization of the tree which produces the tung oil or China wood oil of commerce. Of the few 1-year-old seedlings distributed by mail throughout the Southern and Pacific States, those sent to the Gulf have done so unusually well, growing so rapidly and some of them blossoming and fruiting the second year from transplanting, that it was thought advisable, now that the section climatically best adapted to them has been discovered, to try larger plantations, not only to find out whether they would be a paying crop on cheap land in the South, but to determine the best treatment necessary to make them a commercial success.

"The tung tree or tung-shu, from the seeds of which China wood oil is obtained, is distributed widely throughout the provinces drained by the Yangtze, principally up the river and south of it, extending into the peninsula. Its product should not be confused with the true wood oil, or Gurjun balsam, which is an oleo-resin and which is the exudation from the trunks of several species of *Dipterocarpus* of Indo-China. The name "wood oil" for the Chinese product is really a misnomer and was applied by foreigners on account of the universal use of the oil as a covering for woodwork. To the Chinese the tree, seed, and oil are known, respectively, as *t'ung-shu*, *t'ung-tze*, and *t'ung-yü*, the word tung being applied also quite generally to several other trees of similar aspect of foliage, such as the catalpa, *Sterculia plantanifolia*, and *Paulownia imperialis*. The trees are more restricted to the thin, dry soils of the hilly regions, where farming is unprofitable and where also the Chinese claim that they bear larger crops. They are propagated by seeds which sprout in a short time and are placed where the trees are to stand permanently; also by hard-wood cuttings, which root readily. The tree should be tried in this country, not only for its valuable seeds, but as an ornament. It attains a height of from 20 to 40 feet, and its large, heart-shaped leaves, smooth, green bark, and striking panicles of white flowers slightly tinged with red, which appear with the leaves in the spring, make it a very desirable



**25081—Continued.**

ornamental tree at all seasons of the year. The fruits, which ripen in September, are the size of large, unhulled black walnuts and contain 5 warty seeds the size of chestnuts and the general form of castor-oil seeds.

"The seeds, which make up somewhat more than half by weight of the entire dried fruit, consist of 48 per cent shell and 52 per cent kernel, or 24 per cent oil cake and 28 per cent oil. During the past year the price of the oil in the United States was about 65 cents a gallon of 8 pounds, with linseed at 42 cents.

"For centuries the Chinese have found innumerable uses for wood oil, chief of which may be mentioned the preservation of woodwork from moisture, the waterproofing of cloth, umbrellas, etc., and the making of oil papers and putty; from the oil cake, various calking compounds and fertilizer, and the best India inks from the soot obtained from its combustion. Americans are the only foreigners who have used wood oil to any great extent and then only during the last ten or twelve years. Their appreciation of its good qualities is shown by the steady demand, which has led several importing firms to establish branch houses in the chief exporting centers, Hankow and Hongkong, and by the steadily increasing importations, which grew to 2,000,000 gallons in 1907.

"The wood oil now imported is used almost exclusively in varnish making, but the manufacture of such products as linoleum, enamel paints, and high-grade elastic oilcloths has just commenced, while other uses have been suggested. It belongs to the class of drying oils typified by linseed, but it is much harder, quicker drying, and more impermeable to water, though less lightproof and elastic. Owing to certain physical disadvantages which it possesses, it can not replace linseed, but used in conjunction with it gives most excellent results, especially for outdoor use, where such qualities as it possesses are highly desirable." (*W. Fischer.*)

*Distribution.*—A native of the southeastern part of China, extending from Hongkong north to the province of Hupeh.

**25082 and 25083.**

From China. Presented by Mr. D. MacGregor, Shanghai, through Mr. Frank N. Meyer. Received March 20, 1909.

Seeds of each of the following:

**25082. ASTRAGALUS SINICUS L.**

From near Shanghai. "Used in the Chekiang Province as a leguminous green-manure crop on the low-lying rice fields." (*Meyer.*)

*Distribution.*—A native of the southeastern part of the Chinese Empire, and of Japan.

**25083. ARISAEMA sp. (?)**

From Mokanshan. "Fruit plum colored, aromatic, vinuous flavor; seeds in pulp; fruit the size of a plum." (*MacGregor.*)

**25087. PRUNUS PSEUDO-CERASUS Lindl.****Flowering cherry.**

From Japan. Purchased from the Yokohama Nursery Company. Received March, 1909.

"Seedling plants and seeds of the wild cherry of Japan upon which the Japanese bench-graft all their flowering cherries. I am informed by the Yokohama Nursery Company that this wild cherry, in contrast with the double-flowering and other Japanese ornamental varieties, can be reproduced very easily from cuttings, and that the scions of named varieties are grafted on pieces of the root and not budded, as is the custom in this country with the fruiting cherries. May this new stock not possibly



**25087—Continued.**

be easier to cultivate than the Mazzard or Mahaleb seedlings which are now in use and the propagating work done in the winter on the bench instead of in the field? The difficulties in getting a stock large enough to bud in regions where the leaf-blight is bad has suggested the trial of this Japanese wild cherry as a possible way out of this difficulty. By recent tests I have shown that this wild form strikes very easily in sand." (*Fairchild*.)

**25088. VIGNA UNGUICULATA (L.) Walp.****Cowpea.**

From Muskegon, Mich. Presented by Mr. C. D. McLouth. Received March 15, 1909.

*Red Ripper* (?). "My seed of this variety has been developed from a solitary plant found in a field of *Whippoorwill* cowpeas grown in 1905. This seed was purchased from a local dealer. It is by far the best variety I have grown in its earliness and abundant pod production." (*McLouth*.)

**25089. BELOU GLUTINOSA (Blanco) Skeels.**

From Philippine Islands. Presented by Mr. William S. Lyon, Manila, P. I. Received March 22, 1909.

Seed. See No. 24591 for description.

*Distribution*.—A small tree, native of the Philippine Islands.

**25090 and 25091.**

From Strasburg, Germany. Presented by Mr. George Wintz, Benson, Minn., through Mr. J. M. Westgate. Received March 15, 1909.

Seeds of each of the following:

**25090. TRIFOLIUM PRATENSE L.**

**Red clover.**

**25091. MEDICAGO SATIVA L.**

**Alfalfa.**

"This seed was received under the name *Spitzklee*, which is said to be hardier than ordinary alfalfa." (*Westgate*.)

**25094. FICUS SYCOMORUS L.**

From Cairo, Egypt. Presented by Mr. W. Lawrence Balls, botanist, Khedivial Agricultural Society. Received March 22, 1909.

"This species of fig is grown largely along the north coast of Africa as a shade tree. Giant specimens are to be found in Alexandria and Cairo and at Biskra. The trees are beautiful shade trees, and make wonderful avenues in these dry climates where irrigation is practiced. The fruits are small, about the size of a pigeon's egg, and are sometimes eaten by the Algerian Arabs. They are, however, of no commercial importance.

"As the plants are grown easily from cuttings and make very rapid growth this tree may be expected to thrive well in the practically frostless regions of California and Florida. I do not know how low temperatures it will stand, but probably not more than a temperature of 18° or 20° F.

"Like many valuable things, it has its drawbacks. The Europeans in Egypt complain of a bad odor exhaled by the tree during the fruiting season." (*Fairchild*.)

"This tree will probably not fruit in the absence of its peculiar fig insect, which is in this case not a *Blastophaga* at all but belongs to another genus. Probably this will solve the malodorus fruit problem. I fear you will find it rather tender." (*Walter T. Swingle*.)

*Distribution*.—A large tree found in Egypt and the adjacent countries of the north-eastern part of Africa.

**25095. CITRULLUS VULGARIS Schrad.****Watermelon.**

From the island of Raiatea, Society Islands. Presented by Mr. Julius D. Dreher, United States consul, Tahiti, Society Islands. Received March 15, 1909.

"This melon was of a rich green color; its rind was thin and its pulp unusually red, tender, and sweet. It was eaten at the consulate and we regarded it as so good that I decided to send the seed to America for trial." (*Dreher.*)

**25096. PASSIFLORA QUADRANGULARIS L.**

From Ancon, Canal Zone, Panama. Presented by Mr. Henry F. Schultz, horticulturist, Isthmian Canal Commission, Quartermaster's Department. Received March 24, 1909.

"I doubt whether the fruit of this variety is as good as some of those in Mexico, but I must say that the seed was taken from one of the best fruits which I have sampled in Panama." (*Schultz.*)

*Distribution.*—A native of Central America, being cultivated as well as found wild in Guatemala, Nicaragua, and Panama.

**25097 to 25101.**

Grown at Miami, Fla., by Mr. P. J. Wester, in charge of Subtropical Garden. Numbered for convenience in recording distribution, March 24, 1909.

**25097 and 25098.** Original seed presented by Dr. A. Robertson Proschowsky, Nice, France.

**25097. SOLANUM MARGINATUM L.**

"(S. G. No. 1051.) A shrub attaining a height of from 3 to 5 feet; foliage white tomentose, prickly; flowers 1 inch or more in diameter, white with blue veins or ribs; fruit 1 inch or more across, prickly." (*Wester.*)

*Distribution.*—A native of the upper part of the Nile Valley, especially in Abyssinia.

**25098. MELIA AZEDARACH L.**

"(S. G. No. 1052.) Indigenous to Jamaica. A low-growing tree with leaves deeply incised; flowers in axillary panicles; small, light lilac, fragrant; in constant succession." (*Wester.*)

**25099. CERATONIA SILIQUA L.****Carob.**

"(S. G. No. 900.) Original seed presented by Mr. J. F. Kraemer, Miami, Fla., who received it from a United States consul in Spain. This is said to be very superior to the ordinary varieties grown." (*Wester.*)

*Distribution.*—A tall tree, native in the region bordering on the Mediterranean Sea and cultivated generally in the Tropics. In the United States cultivated in southern Florida and southern California.

**25100. GALPHIMIA NITIDA Hort.**

"(S. G. No. 941.) Original seed presented by Mr. S. K. Brown, Lemon City, Fla. A shrub 4 or more feet tall, quite compact in growth and pyramidal in habit. The small, yellow, fragrant flowers are produced in great profusion." (*Wester.*)

**25101. OCOTEA CATESBYANA (Mich.) Sarg.****Lancewood.**

"(S. G. No. 996.) Indigenous to south Florida and grown from seed collected in Brickell hammock, Miami, Fla. This is an evergreen, glabrous tree, attaining a height of from 20 to 30 feet; the leaves are narrowly elliptic lanceolate,

**25097 to 25101—Continued.**

making a very dense crown. From the observations I have made of this tree in its native habitat I believe it is well worth introducing as a shade tree in all parts of the United States where it would not be injured by frost." (*Wester.*)

*Distribution.*—A native of southern Florida and the Bahamas.

**25104 to 25106. CHAETOCLOA ITALICA (L.) Scribn. Millet.**

From Haka, Chin Hills, Burma. Presented by Rev. H. East, A. B. Mission. Received March 10, 1909.

Seeds of the following:

**25104.** A yellow-seeded variety.

"Chin name *Fatao*. Is considered as good as rice by the Chins, and it is a good food, rich in gluten." (*East.*)

**25105.** A black-seeded variety.

"Chin name *Yel(r)ing*. Is also used as food, but is less valued than *Fatao* (S. P. I. No. 25104) and *Hlsen* (S. P. I. No. 25106)." (*East.*)

**25106.** A yellow-seeded variety.

"Chin name *Hlsen*. Has a large grain; is a good food, but not as rich as *Fatao* (S. P. I. No. 25104). Both kinds have unusually large heads." (*East.*)

"These three varieties need lots of water to grow." (*East.*)

**25107. CAMOENSIA MAXIMA Welw.**

From Angola, West Africa. Presented by Mr. John Gossweiler, botanist in the service of the Portuguese Government of Angola, at the request of Mr. A. E. Evans, Director of Agriculture, Gold Coast, West Africa. Received March 24, 1909.

Seeds.

"Probably the largest flowered and certainly one of the most delicately beautiful vines in the world is *Camoensia maxima*, which has recently flowered for the first time in the United States. Its pure white, fluted petals are margined with gold, changing to a darker tinge with age, and have a delicious fragrance when first opening. The individual flowers are sometimes 8 inches long, which we believe eclipses even the largest flowered hybrid clematis. This magnificent vine adorns the tops of lofty trees on the outskirts of forests in tropical Africa. The clusters are pendulous and sometimes contain nearly a dozen flowers. Unlike the sweet pea, the petals are separate, not forming wings and a keel. The standard is fully 4 inches across.

"The great drawback to the cultivation of this noble plant is that it will bloom only in hothouses of considerable size, and hitherto it has been extremely slow in coming into bloom. Plants were first distributed by Kew in 1873, but did not flower in cultivation until 1882, when blooms appeared at Trinidad. However, Mr. George W. Oliver, propagator to the United States Department of Agriculture, who first bloomed the *Camoensia* here, thinks it 'very likely that this plant will flower oftener and more profusely in this country than in Europe, particularly in England, because of our higher summer temperature, which enables the plant to grow rapidly and ripen its wood.'

"The *Camoensia* is named after the Shakespeare of the Portuguese, the poet Camoens, author of '*Lusiade*.'" (*The Garden Magazine, May, 1908.*)

"I am informed by Doctor André, of Trinidad, that *Camoensia* is a wonderful success there. It ought to be extensively planted in Hawaii, Panama, Porto Rico, and the Philippines." (*Fairchild.*)

*Distribution.*—A tall-climbing vine, native of the woods of western tropical Africa, extending from Guinea through the Kongo region and into Portuguese West Africa.

**25110 to 25112. MEDICAGO SATIVA VARIA (Mart.) Urb.****Sand lucern.**

From Zürich, Switzerland. Presented by Dr. G. Stebler, director, Schweizerische Samenuntersuchungs und Versuchsanstalt, Zürich, through Mr. Charles J. Brand. Received March 13, 1909.

Seeds of each of the following:

**25110.** (P. L. H. No. 3412.)      **25112.** (P. L. H. No. 3414.)

**25111.** (P. L. H. No. 3413.)

"The samples of seed represented by these numbers were not grown in Switzerland, but were submitted by seedsmen to the seed control station for test." (*Brand.*)

**25114. MEDICAGO SATIVA L.****Alfalfa.**

From the Arlington Experimental Farm, Virginia. Received March 27, 1909.

*Peruvian.* "Seed secured from crop of 1908 from transplanted crowns of Peruvian alfalfa. The original crowns were transplanted from a broadcasted stand in April, 1906, to rows 39 inches apart for the purpose of increasing the production of seed." (*Westgate.*)

**25115. MEDICAGO SATIVA VARIA (Mart.) Urb.****Sand lucern.**

From Bromberg, West Prussia, Germany. Purchased from Mr. Ludwig Keller, Oberschüpf, Baden, Germany, who secured the seed from Rudolph Zawadski, in Bromberg, at the request of Mr. Charles J. Brand. Received March 18, 1909.

**25116 to 25118.**

From Pithoragarh, Kumaun District, India. Presented by Miss L. W. Sullivan. Received March 26, 1909.

Seeds of each of the following:

**25116 and 25117. ORYZA SATIVA L.**

**Rice.**

**25116.** "*Jamal.* These seeds are first germinated by being placed in a basket set in a tub of water; when roots are about 1 inch long the seedlings are sown thick in a swampy place; when about 8 or 10 inches high like grass the small plants are separated and transplanted into a swampy place. We put the seeds to soak in May and harvest the grain in October." (*Sullivan.*)

**25117.** "This, our staple food (rice in husk), grows in ordinary soil during our rainy season when the ground is never dry. We sow in March and harvest in September. The fields are weeded three times." (*Sullivan.*)

**25118. GLYCINE HISPIDA (Moench) Maxim.**

**Soy bean.**

"*Bhat dal.*" A small, black variety of soy bean.

**25119. MEDICAGO SATIVA L.****Alfalfa.**

From Vienna, Austria. Secured from Gebrüder Boschan, successors to Wieschnitzky & Clauser, Vienna, Austria, through Mr. Charles J. Brand. Received March 13, 1909.

**25120.. STIZOLOBIUM sp.**

From Sibpur, Calcutta, India. Presented by Mr. A. T. Gage, superintendent, Royal Botanic Garden. Received March 29, 1909.

**25121 to 25126.**

From Brazil. Presented by Mr. William Hope, The Kenesaw, Washington, D. C., through Mr. W. W. Tracy, sr. Received March 25, 1909.

Seeds of each of the following:

**25121 to 25123.** *CITRULLUS VULGARIS* Schrad. **Watermelon.**

**25121.** Black seeded. **25123.** Red seeded.

**25122.** Black seeded.

**25124 to 25126.** *CUCUMIS MELO* L. **Muskmelon.**

**25124.** Long melon; yellow, wavy, smooth skin; yellow flesh; rind 1 centimeter.

**25125.** Long melon; yellow, wavy skin; white flesh; very little rind.

**25126.** Round melon; yellow, wavy skin; yellow flesh; rind 1 centimeter.

**25127. CITRUS TRIFOLIATA L.**

From Tsingtau, China. Received through Mr. Wilbur T. Gracey, United States consul, who procured the seed from Mr. Haas, head forester of the German Government at Tsingtau, March 29, 1909.

Procured for Mr. Walter T. Swingle's hybridization work.

**25130 and 25131. GLYCINE HISPIDA (Moench) Maxim. Soy bean.**

From Knoxville, Tenn. Grown at the Agricultural Experiment Station. Received through Prof. H. A. Morgan, March 29, 1909.

Seeds of each of the following:

**25130.** Early brown.

**25131.** Medium yellow.

**25132 to 25149.**

From Soochow, Kiangsu, China. Presented by Rev. R. A. Haden, B. D. Received March 19, 1909.

The following seeds (quoted descriptions by Mr. Haden):

**25132.** *DOLICHOS LABLAB* L. **Bonavist bean.**

Black seeded. "Purple, flat bean; name from color of bloom, stalk, and leaves; all are purple. Eaten in green state, pod and all. Enormously productive in vine and leaf; not especially remarkable in the amount of fruit. Should be given plenty of room and vine supported."

**25133 to 25137.** *GLYCINE HISPIDA* (Moench) Maxim. **Soy bean.**

**25133.** Small yellow. "Tom Thumb soy. The smallest variety; used only for bean sprouts."

**25134.** Large yellow. "Mammoth yellow soy. This is the very largest of the yellow soys. Used especially for oil and bean curd."

**25135.** Large green. "Tea green soy. Sutt variety. May be put to all the uses of the soy, but in practice they are only used to make parched Sutt beans, eaten as a relish."

**25136.** Large reddish brown. "Mammoth red soy. Used only for eating in the green state, but may be used for all the soy purposes. This is the largest of all the soys."

**25137.** Looks like *Meyer*. "Mammoth mottled soy. Used especially for bean curd; said to give a special flavor to this; has also abundant oil qualities."



**25132 to 25149—Continued.****25138. GLYCINE SOJA Sieb. & Zucc.**

"Horse-feed peas, a literal translation of the Chinese. It grows wild over a very large portion of China. In the north peas by the same name, but a different variety, are extensively cultivated. Long vines, climbing on anything in reach; fruited from bottom to top. I think this should receive special attention, for the following reasons: It will be a good nitrogen producer. It is extensively used in Chinese medicine, entering largely into prescriptions taken internally for eye trouble. It will make a better drink than anything except good coffee. Parch until brown the whole pea, grind, and treat as boiled coffee. This I have tried and am very fond of it as a drink."

*Distribution.*—An annual vine, native and cultivated in the eastern part of Asia, extending from Amur and Manchuria through China and eastern India; also in Japan.

**25139 to 25141. PHASEOLUS ANGULARIS (Willd.) W. F. Wight.****25139.** Red.**25141.** Mottled black.**25140.** Yellow.

"The uses of the above are the same as cowpeas, but the foliage is more abundant."

**25142 and 25143. PHASEOLUS CALCARATUS Roxb.****25142.** Red.**25143.** Greenish yellow.

"From the shape of the seed these are called 'Crab-eye.' They are also the 'Lazy-man' peas, for the reason that they replant themselves. Growth rank; vine bunchy, not very long. Should be extra fine for renewing land and for fodder."

*Distribution.*—Native and cultivated in India and the Malay Archipelago, rising to an elevation of 5,000 feet in the Himalayas.

**25144 to 25147. VIGNA UNGUICULATA (L.) Walp.****Cowpea.****25144.** Small red.**25145.** Large red. "Vine rank, long, prolific; used especially for gruel."**25146.** Reddish brown.**25147.** Large brown eye.**25148 and 25149. VIGNA SESQUIPEDALIS (L.) W. F. Wight.****25148.** Reddish brown.**25149.** Marked red and white.**25152 to 25160. DOLICHOS LABLAB L.****Bonavist bean.**

Grown at the Arlington Experimental Farm, Virginia, season of 1908. Numbered for convenience in recording distribution, March 30, 1909.

Seeds of each of the following:—

**25152 to 25155.** Original seed presented by Dr. S. P. Barchet, Shanghai, China.

**25152.** (Agros. No. 0525.) A variety with white seeds. This variety at the Arlington Experimental Farm was very vigorous and very prolific; flowers white.



## 25152 to 25160—Continued.

## 25152 to 25155—Continued.

**25153.** (Agros. No. 0522.) Very similar to No. 0525 (S. P. I. No. 25152). Seeds white, subglobose.

**25154.** (Agros. No. 0523.) Flowers pale purple; pods longer and narrower than any other variety; seeds large, dark purple, nearly black. A vigorous grower.

**25155.** (Agros. No. 0524.) A very prolific variety, with pink flowers and large purple-black seeds.

**25156.** (Agros. No. 0108.) Original seed obtained from J. M. Thorburn & Co., New York. A variety with small white seeds and white flowers. Very vigorous and prolific. One of the best under conditions at the Arlington Experimental Farm.

**25157.** (Agros. No. 0691.) Original seed obtained from Mr. A. W. Barlett, superintendent, Government Botanic Gardens, Georgetown, British Guiana. A variety with small, pure white seeds and white flowers. Very similar to No. 0108 (S. P. I. No. 25156).

**25158.** (Agros. No. 0425.) Original seed obtained from the island of Barbados. Seeds and flowers similar to the preceding (S. P. I. No. 25157), but plant not vigorous and leaves much affected with a spot disease.

**25159.** (Agros. No. 0438A.) A variety grown at the Arlington Experimental Farm, of unknown origin. Seeds small, brownish purple; flowers pink. Not vigorous nor prolific.

**25160.** (Agros. No. 0438B.) Similar to the preceding (S. P. I. No. 25159), with small, spotted seeds. Likewise of unknown origin.

**25161. GLYCINE HISPIDA (Moench) Maxim.****Soy bean.**

Grown at the Arlington Experimental Farm, Virginia, season of 1908, under Agros. No. 0824. Numbered for convenience in recording distribution, March 31, 1909.

*Eda.* (?) Original seed from the Indiana Agricultural Experiment Station, where it was grown as *Early Brown*.

"This turned out to be identical with *Ito San* in every particular except color of seed. It is a uniform light brown, while *Ito San* is yellow. Neither superior nor inferior to *Ito San*." (*H. T. Nielsen.*)

**25163 to 25165.****Ramboetan.**

From Buitenzorg, Java. Presented by Dr. M. Treub, Director of Agriculture. Received March 12 and 15, 1909.

**25163. NEPHELIUM LAPPACEUM L.**

"*Atjeh matjan.*"

*Distribution.*—A large tree, native of the Malay Archipelago, several varieties being cultivated.

**25164. NEPHELIUM MUTABILE Bl.**

"*Poclasan manis.*"

*Distribution.*—A native of the Malay Archipelago and of the islands of Java and Borneo.

**25163 to 25165—Continued.****25165. NEPHELIUM LAPPACEUM L.***"Atjeh Lebak boeloes."*

*Distribution.*—A large tree, native of the Malay Archipelago, several varieties being cultivated.

"The ramboetan, or *Atjeh*, as the Dutch in Java call *Nephelium lappaceum*, is one of the showiest and one of the most delicately flavored of tropical fruits, superior to the Poelasan (*N. mutabile*). Although the mangosteen ranks first, in my mind, among all the tropical fruits of the world, there are many Dutch residents on the island of Java, where both of these fruits occur, who prefer the ramboetan to the mangosteen. I think even such a connoisseur as Doctor Treub would hesitate to decide which of these two fruits is the finest. The ripe fruits as sold on the markets in Java are about the size of a Japanese plum, but furnished with numerous weak protuberances. In color they are a handsome wine-red. The outer shell, or coating, is thick and leathery, but can be easily broken by a sharp twist of the hands. The flesh inside is much like that of the leitchee, to which it is a near relative, except that in general there is more of it and it is more delicately flavored, and it is my impression that as a rule it is juicier. So far as my limited experience goes with different varieties of leitchee, this ramboetan surpasses them all in excellence. I do not think the trees are cultivated in orchards, for very few orchards of any kind exist in Java. The trees are scattered through the kampongs, or little villages, all over the island. So far as I know, the ramboetan is not a grafted fruit, but grown only from seed. Owing to its thick rind, the fruit of the ramboetan should be a good shipper, and if the plants can be grown on the Panama Canal Zone, in Porto Rico, or southern Florida they should make a dearest sensation when they are first offered for sale on our markets." (*Fairchild*.)

**25166. CUCUMIS MELO L.****Muskmelon.**

From Peleka, Corfu Island. Presented by Mr. Carlo Sprenger, Vomero, near Naples, Italy. Received March 30, 1909.

"Seed of a splendid winter melon. Flesh white or greenish white; shell golden yellow. Very fine and never seen before." (*Sprenger*.)

**25167 and 25168.**

From Erfurt, Germany. Received from Mr. N. L. Chrestensen, Thüringer Central-Saatstelle, Erfurt, Germany, through Mr. Charles J. Brand, March 15, 1909.

Seeds of the following:

**25167. MEDICAGO SATIVA L.****Alfalfa.**

*Deutsche blaue.* "(P. L. H. No. 3417.) This strain of alfalfa is said to be very resistant to severe, snowless winters, and to endure a long series of years. It is produced on exposed situations in Thuringia." (*Brand*.)

**25168. MEDICAGO SATIVA VARIA (Mart.) Urb.****Sand lucern.**

*Böhmische.* (P. L. H. No. 3418.)

**25169 to 25171.**

From Portuguese East Africa. Presented by Mr. O. W. Barrett, Director of Agriculture, Lourenço Marquez. Received March 30, 1909.

The following seeds:

**25169. ANONA SENEGALENSIS Pers.**

"(No. 23.) A small tree, wild near Lourenço Marquez. Fruit 2 to 4 inches long, yellowish skin, bright yellow pulp. Edible. Shironga (Kafir) name *M'zhangpfo* or *Mazhópfa*." (Barrett.)

*Distribution*.—A low shrub or small tree, native to the tropical region of Africa, extending from Guinea and the upper valley of the Nile south to the Zambezi Valley.

**25170. STRYCHNOS SPINOSA Lam.**

**Kafir orange.**

"(No. 24.) A tree 15 to 25 feet high, in bush veld from Zululand to Rhodesia. Fruit spherical, 2 to 3 inches in diameter, yellow when ripe, hard shelled. Edible. Flavor like 'cinnamon and pears.' Shironga (Kafir) name *M'sála*." (Barrett.) See No. 9611 for the original importation and description.

*Distribution*.—A small tree native to the tropical region and the southern part of Africa and also in the Seychelle Islands and in Madagascar.

**25171. VANGUERIA INFAUSTA Burch.**

"(No. 25.) A small tree near Lourenço Marquez, in sandy soil. Fruit roundish, flattened distal. Edible; pulp dry, sweet. Shironga (Kafir) name *M'pfilo*." (Barrett.)

*Distribution*.—A native of the southeastern part of Africa, being found in the vicinity of Johannesburg and of Natal, and in the eastern part of Cape Colony.

**25172 to 25174. MEDICAGO spp.**

From farm of Mr. Lewis Brott, Sextorp, Nebr. These three lots were grown in cultivated rows, 42 inches apart, for seed and were open to the possibilities of cross-pollination among themselves. The Turkestan alfalfa was separated from Brott's *Dry-Land* alfalfa by 14 rows of sand lucern. Seed collected by Mr. J. M. Westgate, August 15, 1908.

Seeds of the following:

**25172. MEDICAGO SATIVA L.**

**Alfalfa.**

*Brott's Dry-Land*. "From same stock as S. P. I. No. 19566, grown in row adjacent to row of sand lucern (S. P. I. No. 20457) and presumably cross-pollinated with the same." (Westgate.)

**25173. MEDICAGO SATIVA VARIA (Mart.) Urb.**

**Sand lucern.**

"Grown from S. P. I. No. 20457 in row adjacent to *Brott's Dry-Land* alfalfa." (Westgate.)

**25174. MEDICAGO SATIVA L.**

**Alfalfa.**

*Turkestan*. "Grown from S. P. I. No. 18751 in row adjacent to sand lucern (S. P. I. No. 20457)." (Westgate.)

**25175 and 25176. MEDICAGO spp.**

From Berlin, Germany. Secured from J. & P. Wissinger, Samenhandlung, Berlin, Germany, through Mr. Charles J. Brand. Received March 24, 1909.

**25175 and 25176—Continued.**

Seeds of the following:

**25175. MEDICAGO SATIVA L.****Alfalfa.**

*Alt-Deutsche Fränkische lucern.* "(P. L. H. No. 3420.) This alfalfa usually has a very large percentage of hard seed, in some samples as high as 63 per cent failing to germinate in the five-day germination test. On this point Wissinger says: 'We could bring the seed to greater germinating power by scratching, were it not for the fact that the hardness of shell is thought here to be a desirable quality under certain conditions. Indeed, it is believed that the longevity of a stand of Franconian lucern is due to its hard-shelled seeds, some of which often lie dormant for years, thereby constantly rejuvenating the stand with a fresh supply of young plants. The appearance of this seed, as furnished, is not first class. We would not, however, wish to do anything that would impair its originality.'

"The present sample was grown in Iphofen, Franconia." (*Brand.*)

**25176. MEDICAGO SATIVA VARIA (Mart.) Urb.****Sand lucern.**

*Bohemian.* "(P. L. H. No. 3421.) This seed was grown on the right bank of the Elbe in Bohemia." (*Brand.*)

**25177. TRIFOLIUM SUAVEOLENS Willd.****Shaftal.**

From Amritsar, Punjab, India. Secured from Mr. Philip Parker, experimental officer in the Indian Irrigation Secretariat, through Mr. Charles J. Brand. Received April 1, 1909.

"Shaftal, which is an annual plant, is the chief fodder crop in the valleys of the northwest frontier of India. It is always grown with irrigation and gives exceedingly good yields.

"Experiments begun in 1907 with the seed previously presented by Mr. Parker (S. P. I. Nos. 19506 and 19507) have proceeded far enough to show considerable promise for this clover, especially in our hot irrigated valleys." (*Brand.*)

**25178 and 25180. MEDICAGO spp.**

From Vienna, Austria. Secured from Gebrüder Boschan, successors to Wieschnitzky & Clauser, through Mr. Charles J. Brand. Received March 25, 1909.

The following seeds:

**25178. MEDICAGO SATIVA VARIA (Mart.) Urb.****Sand lucern.**

*Böhmische.* (P. L. H. No. 3428.)

**25179. MEDICAGO SATIVA L.****Alfalfa.**

*Ungarische.* (P. L. H. No. 3429.)

**25180. MEDICAGO SATIVA L.****Alfalfa.**

*Mährische.* (P. L. H. No. 3430.)

**25181 to 25185. MEDICAGO SATIVA L.****Alfalfa.**

From Bonn-Poppelsdorf, Germany. Presented by Prof. Dr. Th. Remy, director, Institut für Bodenlehre und Pflanzenbau der Königlichen landwirtschaftlichen Akademie, Bonn am Rhein, through Mr. Charles J. Brand. Received March 25, 1909.

The following seeds:

**25181. Pfalzer.** (P. L. H. No. 3422.) Original seed from Frankenthal, Rhein-Pfalz, Germany.

**25181 to 25185—Continued.**

**25182.** *Eifeler.* (P. L. H. No. 3423.) Original seed from Bitburg, in the Eifel, Prussia.

**25183.** *Alt-Fränkische.* (P. L. H. No. 3424.) Original seed from Lagerhaus für das Frankenland, Tauberbischofsheim, Baden, Germany.

**25184.** *Provenzer.* (P. L. H. No. 3425.) Original seed grown near Trier, in the Moselthal of Prussia.

**25185.** *Ungarische.* (P. L. H. No. 3426.) Original seed grown at Csorvas, Komitat Bekes, Hungary.

**25186 to 25190.**

From Pisa, Italy. Presented by Prof. G. E. Rasetti, director, Cattedra Ambulante di Agricoltura per la Provincia di Pisa, Italy, through Mr. Charles J. Brand. Received March 31, 1909.

The following seeds:

**25186 and 25187.** *MEDICAGO SATIVA* L. **Alfalfa.**

**25186.** (P. L. H. No. 3431.) Grown near Setif, Algeria.

**25187.** (P. L. H. No. 3432.) *Herba medica.* The form commonly grown in Italy. This sample was produced near Pisa, Italy.

**25188 to 25190.** *TRIFOLIUM PRATENSE* L. **Red clover.**

**25188.** (P. L. H. No. 3433.) "Professor Rasetti states that this variety is known as *Spadone*, and that it was produced at Santhia, in the province of Novara, Italy." (Brand.)

**25189.** (P. L. H. No. 3434.) This is the form commonly cultivated in Italy. Gathered near Pisa, Italy.

**25190.** (P. L. H. No. 3435.) This variety is known as *Vische*, and is cultivated in Vische, in the province of Novara.

**25191.** *MEDICAGO SATIVA* L. **Alfalfa.**

From Chico, Cal. Seed collected by Mr. Roland McKee at the Plant Introduction Garden, July 13, 1908. Numbered for convenience in recording distribution, March, 1909.

"This seed was collected from a single plant grown from S. P. I. No. 19508. Mother plant possessed flowers borne in compound racemes. The flowers were open to the visits of insects and were presumably cross-pollinated with pollen from the numerous other lots of alfalfa in the alfalfa nursery." (J. M. Westgate.)

"This plant was noticed by me on May 1, 1908, while walking over the grounds of the Plant Introduction Garden at Chico, Cal., with Mr. Roland McKee. The plant was noticeable even from a distance because of the profusion of its flowers. Upon examination this was found to be due to the fact that the flower clusters were much branched instead of being simple as usual.

"As the plant seemed healthy and vigorous in spite of its profusion of flowers, it seemed desirable to direct attention to it with a view to obtaining a new variety—perhaps able to produce a better quality of hay and also more seed than the ordinary plants of the parent strain." (W. T. Swingle.)

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Mr. H. A. ...  
U. S. DEPARTMENT OF AGRICULTURE.

BUREAU OF PLANT INDUSTRY—BULLETIN NO. 168.

B. T. GALLOWAY, *Chief of Bureau.*

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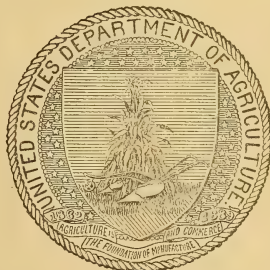
Mr. H. A. ...  
**SEEDS AND PLANTS IMPORTED**

DURING THE PERIOD FROM APRIL 1  
TO JUNE 30, 1909:

INVENTORY No. 19; Nos. 25192 to 25717.

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ISSUED DECEMBER 29, 1909.



WASHINGTON:

GOVERNMENT PRINTING OFFICE.

1909.

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[Continued on page 3 of cover.]

U. S. DEPARTMENT OF AGRICULTURE.

BUREAU OF PLANT INDUSTRY—BULLETIN NO. 168.

B. T. GALLOWAY, *Chief of Bureau.*

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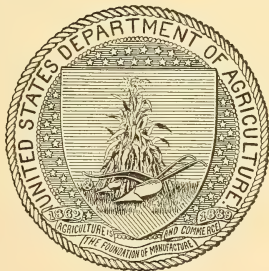
# SEEDS AND PLANTS IMPORTED

DURING THE PERIOD FROM APRIL 1  
TO JUNE 30, 1909:

INVENTORY No. 19; Nos. 25192 to 25717.

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ISSUED DECEMBER 29, 1909.



WASHINGTON:

GOVERNMENT PRINTING OFFICE.

1909.

## BUREAU OF PLANT INDUSTRY.

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### FOREIGN SEED AND PLANT INTRODUCTION.

#### SCIENTIFIC STAFF.

David Fairchild, *Agricultural Explorer in Charge*.

P. H. Dorsett, Albert Mann, George W. Oliver, Walter Van Fleet, and Peter Bisset, *Experts*.  
Frank N. Meyer, *Agricultural Explorer*.

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## LETTER OF TRANSMITTAL.

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U. S. DEPARTMENT OF AGRICULTURE,  
BUREAU OF PLANT INDUSTRY,  
OFFICE OF THE CHIEF,  
*Washington, D. C., October 1, 1909.*

SIR: I have the honor to transmit herewith and to recommend for publication as Bulletin No. 168 of the series of this Bureau the accompanying manuscript, entitled "Seeds and Plants Imported during the Period from April 1 to June 30, 1909: Inventory No. 19; Nos. 25192 to 25717."

This manuscript has been submitted by the Agricultural Explorer in Charge of Foreign Seed and Plant Introduction with a view to publication.

Respectfully,

B. T. GALLOWAY,  
*Chief of Bureau.*

Hon. JAMES WILSON,  
*Secretary of Agriculture.*





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## SEEDS AND PLANTS IMPORTED DURING THE PERIOD FROM APRIL 1 TO JUNE 30, 1909: INVENTORY NO. 19; NOS. 25192 TO 25717.

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### INTRODUCTORY STATEMENT.

The material listed in this nineteenth inventory of seeds and plants imported was secured almost entirely through friends and correspondents abroad and by the efforts of coworkers in this country. No agricultural explorers were in the field during the time covered, although three varieties of alfalfa and one of clover secured by Professor Hansen in central Asia are included here, having arrived too late for the last inventory, and as this inventory goes to press Mr. Frank N. Meyer is on his way to Chinese Turkestan, where he goes in search of hardy fruits, forage crops, and grains.

The following are some of the more important items in this inventory:

A collection of named German and other European varieties of alfalfa (Nos. 25193, 25194, 25257, and 25264 and following numbers) has been secured for the work in Plant Life History Investigations.

Following the example of Louisiana and Hawaii, it is hoped that some valuable work can be done for the newly opened region in southern Texas with a fine collection of sugar-cane hybrids recently received at the South Texas Garden from the Harvard Botanic Station in Cuba (Nos. 25225 to 25242).

A remarkable eucalypt hybrid (No. 25246) which comes true from seed, an acquisition from Algeria, should be of value to growers of these trees in California.

A clover and three varieties of alfalfa, previously mentioned (No. 25276 and following numbers), were secured through Prof. N. E. Hansen on his central Asian journey, but arrived too late to be grouped with the forage crops described in the last inventory.

The specialists in cereals of the Department of Agriculture and the state experiment stations making oat trials will undoubtedly find some good material in the collections from Spain, Italy, and Roumania (No. 25317 and following numbers, No. 25351 and following numbers, and No. 25580 and following numbers).

Africa, the reputed home of the sorghum, has again contributed its quota for experiments in the Southwest in seventeen varieties from Togo (No. 25328 and following numbers).

A wild red raspberry (No. 25466) from the Philippines is considered a possibility for breeding a desirable form for the South or for our tropical possessions.

Mr. Husbands, of Limávida, Chile, has again sent the Department a collection of forest and ornamental trees and shrubs, together with forage crops and muskmelons adapted to the Pacific slope (No. 25470 and following numbers; No. 25611 and following numbers).

Another collection of muskmelons (No. 25538 and following numbers), consisting of extra-choice winter varieties adapted to California conditions, has been received from the American vice-consul at Valencia, Spain.

A curious rubber plant (No. 25547), only recently described, has been secured from Angola, West Africa. It is a slow-growing desert type in which the rubber is stored up in turnip-shaped underground roots. It will be used for trials in methods of rapid propagation and selection.

Nine varieties of rice from Trinidad (No. 25596 and following numbers) may prove valuable for the work of the Hawaii Agricultural Experiment Station.

Manchuria has contributed ten more varieties of soy beans (No. 25649 and following numbers) secured through the American consul at Newchwang.

Collections of cereals, legumes, and sorghums from Abyssinia (No. 25666 and following numbers) and tropical legumes from Bombay, India (No. 25704 and following numbers), have added materially to the list of plants available for trial in the South.

This nineteenth inventory contains 526 separate introductions, covering the quarter beginning April 1 and ending June 30, 1909. The material included was determined by Messrs. W. F. Wight and H. C. Skeels, while the manuscript was prepared by Miss Mary A. Austin.

DAVID FAIRCHILD,

*Agricultural Explorer in Charge.*

OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION,

*Washington, D. C., September 7, 1909.*

# INVENTORY.

## 25192. *MEDICAGO SATIVA* L.

**Alfalfa.**

From Tulare, Cal. Grown by Mr. J. T. Bearss, of the agricultural substation. Presented by Director E. J. Wickson, through Mr. J. M. Westgate. Received April 1, 1909.

"This was grown from S. P. I. No. 1151, which was secured in Kopal, Siberia. It is considered to be the best variety of Turkestan alfalfa tested by the California experiment station. It has variegated flowers, as do commercial sand lucern, *Grimm* alfalfa, and several other hardy valuable strains." (*Westgate.*)

## 25193. *MEDICAGO SATIVA* L.

**Alfalfa.**

From Bargaen, Baden, Germany. Secured from Mr. Adam Joos, Bargaen, near Sinsheim, Baden, through Mr. Charles J. Brand. Received April 1, 1909.

*Alt-Deutsche Fränkische luzerne.* "This seed was grown in the valley of the Elsenz, a tributary of the Neckar. It is the practice in this section to leave either the first or second growth for the seed. When the first is left, harvesting is done in August. Mr. Joos states that old stands serve better for seed-producing purposes than young. Concerning the old German variety he says: 'This variety of clover is at home with us; it has already been cultivated for centuries.'" (*Brand.*)

## 25194. *MEDICAGO SATIVA* L.

**Alfalfa.**

From Bavaria, Germany. Secured from Gutsbesitzer Heil, Tüchelhausen, near Würzburg, Bavaria, through Mr. Charles J. Brand. Received April 1, 1909.

*Alt-Deutsche Fränkische luzerne.* "(P. L. H. No. 3437.) In the section from which this seed was procured, lucern left for seed is cut with the scythe, bound by hand into small bundles, and shocked. The second cutting is always used for seed production." (*Brand.*)

## 25195. *ACTINIDIA ARGUTA* (S. & Z.) Planch.

From Taracol, Unsan, Korea. Presented by Mr. J. D. Hubbard, metallurgist for the Oriental Consolidated Mining Company. Received April 1, 1909.

"Seeds of the Korean 'tara,' or wild fig. In its wild state here the tara plant is a wonderfully tough and wiry vine that will climb up trees sometimes to a height of 30 feet. The fruit has a green skin and is the size of a date when ripe. The flavor is different from any fruit I ever tasted, and I come from California, the 'land of fruit.' I do not think the vines bear the first year, but after that profusely." (*Hubbard.*)

## 25196. *CITRUS NOBILIS* × *AURANTIUM*.

**Orange.**

From Algiers, Algeria. Presented by Dr. L. Trabut, botanist to the Government of Algeria, through Mr. Walter T. Swingle. Received April 5, 1909.

*Clémentine.* Budsticks procured for grafting purposes.

"This new variety of tangerine orange is said to be very mild and to be a very bright red color. It was found in North Africa by Doctor Trabut and is considered by him to be a very promising novelty." (*Swingle.*)



**25197. STIZOLOBIUM sp.**

From Homestead, Fla. Presented by Mr. Thomas Brewer, through Mr. P. J. Wester, in charge, Subtropical Garden, Miami, Fla. Received April 2, 1909.

"I have originated a white velvet bean which has taken me four years to perfect from one lone white bean, and I think there is a great future for it, as this variety is good to eat cooked like lima beans, and four times as prolific. The beans seem to be more domesticated and a better strain than the old dog tick velvet beans, and I think will take their place entirely when introduced." (Brewer.) Similar to S. P. I. No. 24766.

**25198 to 25203. MANIHOT spp.****Cassava.**

From Brazil. Presented by Mr. William Hope, Washington, D. C., through Mr. W. W. Tracy, sr. Received March 24, 1909. Numbered April 5, 1909.

25198. *Mecadena*.25201. *Puereu*.25199. *Miguel Preto*.25202. *Turesa*.25200. *Piculy*.25203. *Bahiana*.**25204 to 25219.**

From Bremen, Germany. Presented by Dr. George Bitter, director, Botanical Garden. Received March 26, 1909.

The following seeds:

25204. *CHLORIS SUBMITICA* H. B. K.

*Distribution*.—A native grass of Mexico, extending north as far as San Luis Potosi.

25205. *ERODIUM SEMENOVII* Reg. & Herd.

*Distribution*.—An annual plant, found in the valley of the Volga River and on the borders of the Caspian Sea in southeastern Russia.

25206 and 25207. *FESTUCA ELATIOR* L.25208 and 25209. *FESTUCA ELATIOR ARUNDINACEA* (Schreb.) Celak.25210 and 25211. *FESTUCA SPECTABILIS* Jan.

*Distribution*.—A native of the mountainous regions of central Europe, extending from the Tyrol into Croatia and Dalmatia.

25212. *GLYCINE HISPIDA* (Moench) Maxim.**Soy bean.**

Brown.

25213. *MELILOTUS MESSANENSIS* (L.) All.

*Distribution*.—An annual plant, found in the countries bordering on the Mediterranean Sea.

25214. *MELILOTUS SUAVEOLENS* Ledeb. (?)25215. *MELILOTUS WOLGICA* Poir.

*Distribution*.—A native of the southern part of Russia.

25216. *MELILOTUS* sp.25217. *PHALARIS MINOR* Retz.

*Distribution*.—A native of the countries bordering on the Mediterranean Sea, and cultivated or introduced in central Europe.

25218. *PHASEOLUS VULGARIS* L.25219. *PHLEUM PANICULATUM* Huds.

*Distribution*.—An annual grass, native of the countries of southern Europe, and extending east to Persia and Afghanistan.

**25221. MEDICAGO SATIVA L.****Alfalfa.**

From Rocky Ford, Colo. Grown by Mr. P. K. Blinn in 1907. Received through Mr. J. M. Westgate, fall of 1908.

*Guaranda*. "Grown from No. 14972. Seventeen ounces of seed was secured from 50 individual plants, 6 months old, grown in cultivated rows 20 inches apart with the plants 20 inches apart in the rows." (*Westgate*.)

**25222 and 25223. MEDICAGO SATIVA L.****Alfalfa.**

From Chillicothe, Tex. Grown by Mr. A. B. Conner, season of 1908. Received through Mr. J. M. Westgate, fall of 1908.

**25222.** "Grown from No. 12549. This alfalfa while not quite so hardy as ordinary western-grown alfalfa produces excellent yields of hay and seed in places where it does not winterkill." (*Westgate*.)

**25223.** *Guaranda*. "Grown from No. 14972. The heaviest seeding strain of any under test in the alfalfa nursery at Chillicothe." (*Westgate*.)

**25224. HIPPEASTRUM VITTATUM (L'Her.) Herbert.**

From Washington, D. C. Transferred to the Office of Foreign Seed and Plant Introduction by Mr. E. M. Byrnes, superintendent of Gardens and Grounds, United States Department of Agriculture, April 1, 1909.

"Two-year-old hybrids, the result of crosses made by Mr. Byrnes in the spring of 1907 between a few unnamed varieties of different shades of color and markings. The bulbs are regarded by Mr. Byrnes as exceptionally large sized for their age and those which have bloomed so far as a decided improvement over the parents." (*W. Fischer*.)

**25225 to 25242. SACCHARUM OFFICINARUM L.****Sugar cane.**

From Central Soledad, Cienfuegos, Cuba. Presented by Mr. Robert M. Grey, Harvard Botanical Experiment Station. Received at the South Texas Garden, Brownsville, Tex., February 18, 1909. Numbered April 7, 1909.

Descriptive notes on the following by Mr. E. C. Green:

**25225.** *Barbados* No. 109 ♀ × *Ribbon* ♂.

(Harvard No. 1.) (S. T. G. No. 2005.) Dark cream to brown; average length of joints 3 inches; average length of canes 4 feet 3 inches, diameter 1 inch.

**25226.** *Barbados* No. 109 ♀ × *Ribbon* ♂.

(Harvard No. 5.) (S. T. G. No. 2006.) Dark cream to brown; average length of joints 3½ inches; average length of canes 3 feet 6 inches, diameter 1¼ inches.

**25227.** *Barbados* No. 109 ♀ × *Ribbon* ♂.

(Harvard No. 12.) (S. T. G. No. 2007.) Dark cream to brown; average length of joints 3½ inches; average length of canes 4 feet, diameter 1¼ inches.

**25228.** *Demarara* No. 95 ♀ × *Crystallina*.

(Harvard No. 15.) (S. T. G. No. 2008.) Yellow to dark green; average length of joints 2¾ inches; length of canes 4 feet, diameter 1 inch.

**25229.** *Demarara* No. 95 ♀ × *Crystallina*.

(Harvard No. 16.) (S. T. G. No. 2009.) Dark red; very stout; average length of joints 4 inches; average length of canes 4 feet 6 inches, diameter 1½ inches.

**25225 to 25242—Continued.**

**25230.** *Crystallina* × *Crystallina*.

(Harvard No. 17.) (S. T. G. No. 2010.) Dark red; very stout; prominent nodes; average length of joints  $3\frac{1}{2}$  inches; average length of canes 2 feet 6 inches, diameter  $1\frac{1}{4}$  inches.

**25231.** *Harvard* No. 208 × *Ribbon*.

(Harvard No. 22.) (S. T. G. No. 2011.) Dark red; stout; joints  $3\frac{1}{2}$  inches; canes average  $3\frac{1}{2}$  feet in length, diameter  $1\frac{1}{4}$  inches.

**25232.** *Java* No. 51 × *Java* No. 51.

(Harvard No. 36.) (S. T. G. No. 2012.) Yellow to dark brown tinted with green; joints  $3\frac{1}{2}$  inches long; average length of canes 5 feet 6 inches, diameter 1 inch.

**25233.** *Java* No. 51 × *Java* No. 51.

(Harvard No. 45.) (S. T. G. No. 2021.) Red with yellow; joints  $3\frac{1}{2}$  inches long; prominent nodes; canes 4 feet long, diameter 1 inch.

**25234.** *Barbados* No. 109 ♀ × *Ribbon* ♂.

(Harvard No. 48.) (S. T. G. No. 2022.) Yellow; very stout; joints  $3\frac{1}{2}$  inches long; canes 2 feet long, diameter  $1\frac{1}{2}$  inches.

**25235.** *Caledonia Queen* × *Crystallina*.

(Harvard No. 73.) (S. T. G. No. 2015.) Dark red; exceptionally stout; joints  $3\frac{1}{2}$  inches long; length of canes 4 feet 3 inches, diameter  $1\frac{1}{2}$  inches.

**25236.** *Barbados* No. 109 × *Crystallina*.

(Harvard No. 75.) (S. T. G. No. 2016.) Light green with yellow tints; joints  $5\frac{1}{2}$  inches long; canes 4 feet long, stocky, diameter  $\frac{3}{4}$  inch.

**25237.** *Barbados* No. 109 × *Crystallina*.

(Harvard No. 76.) (S. T. G. No. 2017.) Light green with yellow tints; joints  $2\frac{1}{2}$  inches long; canes 2 feet long, stocky, diameter  $1\frac{3}{8}$  inches.

**25238.** *Barbados* No. 109 × *Crystallina*.

(Harvard No. 77.) (S. T. G. No. 2018.) Light green with yellow tints; joints 4 inches long; canes  $2\frac{1}{2}$  feet long, diameter 1 inch.

**25239.** *Crystallina* × *Crystallina*.

(Harvard No. 198.) (S. T. G. No. 2019.) Dark red; joints 6 inches long; canes 5 feet long, diameter 1 inch.

**25240.** *Crystallina* × *Crystallina*.

(Harvard No. 208.) (S. T. G. No. 2020.) Yellow with green stripes; joints 5 inches long; canes average 5 feet 3 inches.

**25241.** *Java* No. 51 × *Java* No. 51.

(Harvard No. 37.) (S. T. G. No. 2013.) Dark red tinged with yellow; joints 6 inches long and very stout; length of canes 4 feet, diameter  $1\frac{1}{2}$  inches.

**25242.** *Barbados* No. 109 × *Crystallina*.

(Harvard No. 39.) (S. T. G. No. 2014.) Dark red; joints 5 inches long, stout; canes 4 feet long, diameter  $1\frac{1}{4}$  inches.

**25243. TRITICUM AESTIVUM L.****Wheat.**

From Seoul, Korea. Presented by Mr. Thomas Sammons, American consul-general. Received April 7, 1909.

"The Korean variety of wheat, although very poor, grows well." (*Sammons*.)

**25244. MEDICAGO SATIVA L.****Alfalfa.**

From Alma, Nebr. Grown in the summer of 1908 by Mr. Conrad Boehler. Received through Mr. J. M. Westgate, April 7, 1909.

*Grimm.* "A field of ordinary alfalfa was in bloom alongside of the field from which this seed was obtained, and some cross-pollination may have taken place." (*Westgate.*)

**25245. ANACARDIUM OCCIDENTALE L.****Cashew.**

From Ancon, Canal Zone, Panama. Presented by Mr. H. F. Schultz. Received April 8, 1909.

A yellow-fruited variety. See No. 5205 for description.

*Distribution.*—A small tree, native of Tropical America, extending from Brazil north to Mexico and the West Indies. Cultivated and naturalized in India and other tropical countries.

**25246. EUCALYPTUS TRABUTI Vilmorin.**

From Algeria. Presented by Dr. L. Trabut, government botanist, Mustapha-Alger, Algeria. Received April 7, 1909.

"A hybrid of *E. botryoides*  $\times$  *rostrata*. Tree very vigorous, wood very good, growth rapid, stem straight and high. Comes true to seed." (*Trabut.*)

**25247 to 25250. IPOMOEA spp.**

From Miami, Fla. Procured from Mr. P. J. Wester, in charge, Subtropical Garden. Received April 8, 1909.

Seed of each of the following. Procured for experiments being made by Prof. H. J. Webber, Cornell University, Ithaca, N. Y.

**25247. IPOMOEA SINUATA Ortega.**

*Distribution.*—A native of the sandy shores from Georgia to Texas, and extending south through Central America into Brazil; also in the West Indies.

**25248. IPOMOEA JALAPA (L.) Pursh.**

*Distribution.*—A native of America, being found on the sandy shores along the coast from South Carolina to Florida and in Mexico and the West Indies.

**25249. IPOMOEA SETOSA Ker.**

*Distribution.*—A native of Brazil, and also found in Jamaica, probably introduced.

**25250. IPOMOEA sp.**

"Found growing on wet land in the neighborhood." (*Wester.*)

**25252. ZEA MAYS L.****Corn.**

From a highland valley near Cuzco, Peru (11,500 feet). Presented by Mrs. Harriet Chalmers Adams, Washington, D. C. February, 1909.

"Red corn of the Quichuas." (*Adams.*)

**25253. PELARGONIUM ODORATISSIMUM (L.) Ait. Rose geranium.**

From Valencia, Spain. Presented by Mr. J. L. Byrne, American vice and deputy consul, at the request of Mr. R. M. Bartleman, American consul, Madrid, Spain. Received April, 1909.

"There is only one variety of the rose geranium cultivated in this region for its perfume. Judging from inquiries occasionally received at this consulate from Ameri-

**25253—Continued.**

can horticulturists and perfume-makers it would appear that an impression prevails in the United States that the rose geranium employed in the famous essence manufactory near this city is a special variety peculiar to the district. Such, however, is not the case, but the plants raised in the vicinity of Valencia have been distinguished from time immemorial by the intensity of their fragrance and the quantity of essential oil they yield, qualities which undoubtedly depend to some extent on local climatic and soil conditions, as the same geranium transplanted to other European countries, and even to other regions of Spain itself, loses considerably in this respect. The plants used in the perfume distillery are grown close to the sea on soil so extremely light and sandy that in some places it looks like a continuation of the seashore." (*Byrne*.)

**25254. STIZOLOBIUM sp.**

From Yokohama, Japan. Purchased from the Yokohama Nursery Company. Received April, 1909.

"This is widely cultivated in Hokkaido. *The Useful Plants of Japan* has to say: '*Mucuna capitata* Wight et Arn., Jap. *Oshiraku-mame*, *Hassho-mame*; an annual leguminous climber cultivated in common dry land. The young soft grains are eaten boiled and have a taste of *Vicia faba* L., but this bean contains a poisonous ingredient in a slight quantity; so it is advisable to eat moderately.' " (*Yokohama Nursery Company*.)

*Note*.—The above seed was sent in as *Mucuna capitata*; hence the description.

**25255. PHASEOLUS ANGULARIS (Willd.) W. F. Wight.**

Grown at Arlington Farm, Virginia, season of 1908. Received in the fall of 1908.

"Grown from Agros. No. 0516. This seed was received from the Tokyo Botanical Garden in 1907. The seed is a pale-straw color or nearly white, much lighter than any other variety yet obtained." (*C. F. Piper*.)

**25256. DOLICHOS LABLAB L.****Bonavist bean.**

From Paris, France. Purchased from Vilmorin-Andrieux & Co. Received April 10, 1909.

Stringless. Mottled reddish brown.

**25257. MEDICAGO SATIVA L.****Alfalfa.**

From Barga, Baden, Germany. Secured from Mr. Adam Joos, Barga, near Sinsheim, Baden, through Mr. Charles J. Brand. Received April 12, 1909.

*Pfalzer luzerne*. "This seed was grown in the Bavarian Rhine Palatinate. (P. L. H. No. 3438.)" (*Brand*.)

**25258. AVENA SATIVA L.****Oat.**

From Sebenico, Dalmatia, Austria. Presented by Mr. Carlo Ruggeri. Received April 7, 1909.

**25259 and 25260.**

From Palestine. Presented by Mr. E. F. Beaumont, Jerusalem, Palestine. Received April 10, 1909.

**25259. AVENA SATIVA L.****Oat.**

From Plain of Sharon, near Jaffa.

**25260. HORDEUM sp.****Barley.**

From mountain country around Jerusalem.

**25261 and 25262. STIZOLOBIUM spp.**

From Saigon, Cochin China. Presented by the director of the Botanical Garden, through Mr. Jacob E. Conner, American consul. Received April 12, 1909.

25261.

Florida velvet bean.

25262.

Black seeded.

**25263. STIZOLOBIUM sp.**

From Calcutta, India. Presented by Mr. William H. Michael, consul-general, who procured them from the Reporter of Economic Products to the Government of India. Received April 13, 1909.

"These were collected from wild plants in the neighborhood of Calcutta, but the *Mucuna* (*Stizolobium*) can not be said to be cultivated here." (*Michael.*)

**25264 to 25266.**

From province of Saxony, Germany. Secured from Mr. Ludwig Pfoh, Ober-Inspector des Ritterguts, Zöschen, near Merseburg, Germany, through Mr. Charles J. Brand. Received April 12, 1909.

25264. *MEDICAGO SATIVA* L.

Alfalfa.

*Alt-Deutsche Fränkische luzerne.*

25265. *MEDICAGO SATIVA VARIA* (Mart) Urb.

Sand lucern.

25266. *TRIFOLIUM PRATENSE* L.

Red clover.

This sample of German red clover was grown from seed originally produced in Württemberg.

**25267 and 25268. MEDICAGO spp.**

From Berlin, Germany. Secured from Metz & Co., Steglitz, near Berlin, Germany, through Mr. Charles J. Brand. Received April 13, 1909.

25267. *MEDICAGO SATIVA* L.

Alfalfa.

Grown in Germany. (P. L. H. No. 3454.)

25268. *MEDICAGO SATIVA VARIA* (Mart) Urb.

Sand lucern.

Bohemian.

**25269 and 25270. MEDICAGO SATIVA L.**

Alfalfa.

From Bucharest, Roumania. Secured from the Ministry of Agriculture, Industry, Commerce, & Domains of Roumania, through Mr. E. W. Jenkins, Dover, Del. Received April 12, 1909.

"Both of these samples of seed were grown on the model farms conducted by the experiment station for the selection and breeding of cereals of the Roumanian Government." (*C. J. Brand.*)

25269. Was grown on the model farm "Studina," at Frasinet.

25270. Was grown on the model farm "Laza," which is located at Vasluiu.

**25274. LITCHI CHINENSIS Sonner.**

Leitchée.

From Fuchau, China. Received through Mr. Samuel L. Gracey, American consul, at the Plant Introduction Garden, Chico, Cal., March 30, 1909.

For previous introductions; see No. 23202, etc.

*Distribution.*—Native and cultivated in the southeastern part of China; also cultivated in India. A few plants of the species are reported as growing in the West Indies.



**25276. TRIFOLIUM SUAVEOLENS Willd.**

From Tashkent, Turkestan. Procured by Prof. N. E. Hansen, of the Agricultural Experiment Station, Brookings, S. Dak., in 1908, while traveling as an agricultural explorer for the Department of Agriculture. Received April 12, 1909.

*Distribution.*—See No. 24548.

**25277 to 25279. MEDICAGO SATIVA L.****Alfalfa.**

From Turkestan. Procured from Mr. H. W. Durrschmidt, Tashkent, Turkestan, by Prof. N. E. Hansen, of the Agricultural Experiment Station, Brookings, S. Dak., in 1908, while traveling as an agricultural explorer for the Department of Agriculture. Received February 23, 1909.

**25277.** *Aulicata*.

**25278.** *Khira*. Polished by machine.

**25279.** *Vernoe*.

*Note.*—A previous shipment of alfalfa (No. 23203), received under the name *Vernoe*, or *Tschilik*, is presumably the same variety and from the same location as the above.

"The *Aulicata* is from *Aulicata*, Semirechensk, north of Tashkent. The *Vernoe* is from *Vernoe*, Semirechensk, 600 versts northeast of Tashkent." (*Hansen*.)

**52280. PISUM ARVENSE L.****Field pea.**

From Nephi, Utah. Presented by Mr. F. D. Farrell, assistant agronomist, Agricultural Experiment Station, Logan, Utah. Received April 19, 1909.

"These were grown in 1908, from seed obtained from Colorado. Variety not known. Best yielding variety in 1908." (*Farrell*.)

**25281. CAESALPINIA CORIARIA (Jacq.) Willd.****Divi-divi.**

From Rio Hacha, Colombia. Presented by Sr. José Bolívar Nuñez. Received April 17, 1909.

See No. 23335 for description.

*Distribution.*—A tree found in the southern part of Mexico, in the vicinity of Tehauntepec, and in Venezuela and the islands of Jamaica, Trinidad, and Haiti.

**25309. AMYGDALUS PERSICA L.****Peach.**

From Yokohama, Japan. Purchased from the Yokohama Nursery Company. Received April 21, 1909.

"*Tenshin* blood peach."

**25315. ZINZIBER OFFICINALE Rosc.****Ginger.**

From Sibpur, Calcutta, India. Presented by Prof. A. T. Gage, superintendent, Royal Botanic Garden, Calcutta. Received April 23, 1909.

Procured for Dr. R. H. True's experiments.

**25316. PINUS GERARDIANA Wall.**

From Fort Sandeman, Baluchistan. Procured from Lieut. Col. G. C. Trench, I. A., political agent in Zhob. Received April 22, 1909.

See No. 21819 for description.

**25316—Continued.**

*Distribution.*—A large tree, native to the dry interior valleys of the Himalaya Mountains in the northern part of India and Afghanistan, rising to an elevation of 12,000 feet.

**25317 and 25318. AVENA SATIVA L.****Oat.**

From Madrid, Spain. Presented by Mr. R. M. Bartleman, American consul.  
Received April 22, 1909.

Seed of the following:

**25317.** "Spanish oats, first quality."

**25318.** "Spanish oats, second quality."

**25319. AVENA SATIVA L.****Oat.**

From Toscana, Italy. Presented by Mr. Willy Müller, Hortus Nucerenis,  
Nocera Inferiore, Italy. Received April 16, 1909.

"First quality oats."

**25320 to 25323. AVENA SATIVA L.****Oat.**

From Spain. Presented by Don Emillano Lopez, Murcia, Spain. Received  
April 15, 1909.

Seeds of each of the following:

**25320.** *Hungria.*

**25322.** *Lioscoln.*

**25321.** *Kirsche.*

**25323.** *Gigante.*

**25324 to 25326. AVENA SATIVA L.****Oat.**

From Valencia, Spain. Presented by Escuela Pratica de Agricultura, at the request of Hon. Charles S. Winans, American consul. Received April 22, 1909.

**25327. MEDICAGO SATIVA L.****Alfalfa.**

From Hamburg, Germany. Secured from R. Liefman Sons, Successors, through  
Mr. Charles J. Brand. Received April, 24, 1909.

*Alt-Deutsche Fränkische luzerne.*

**25328 to 25344.**

From the district Sansane-Mangu, in the northern part of Togo, German West  
Africa. Presented by Doctor Meyer, Governor of Togo. Received April  
7, 1909.

The following seeds collected December 28, 1908. Quoted notes by the collector;  
descriptions of varieties by Mr. Carleton R. Ball.

**25328 to 25342. ANDROPOGON SORGHUM (L.) Brot.**

**25328.** "Native name *Aparku fofolé*. Grown on the lighter sandy  
soils of the grass steppe. An early variety, ripening in 4 months; 2  
or 3 meters high." Variety *ovulifer* Hack., form I, with black  
glumes and white seeds. Almost identical with S. P. I. No. 18180.

**25329.** "Native name *Aparku* (rot). \* On light sandy soils. An early  
variety, growing 2 or 3 meters high." Variety *ovulifer* Hack., form  
II, with black glumes and reddish brown seeds. Equivalent to S. P.  
I. No. 18198.

## 25328 to 25344—Continued.

## 25328 to 25342—Continued.

25330. "Native name *Tyila* (rot). Lighter sandy soils containing swamp ore; 2 to 3 meters high. A late variety, ripening in 6 months. Used for flour and beer." Variety *ovulifer* Hack., form VI. Glumes dark reddish brown. Equivalent to S. P. I. No. 18189.
25331. "Native name *Adyila* (weiss). From same soil as preceding (S. P. I. No. 25330), and same description applies to it." Variety *ovulifer* Hack., form I, with black glumes and seeds white with a slight yellowish tinge.
25332. "Native name *Kamaila*. Light sandy soils. Differs from preceding in color of seeds. More commonly used for flour making. Ripens in 6 months." Variety *ovulifer* Hack., form I, with black glumes and seeds white with a slight yellowish tinge.
25333. "Native name *Tyentyenyark*. Light clay and sandy soils; 3 meters high. An early variety used for flour. Ripens in 5 months." Same as No. 25330; equivalent to S. P. I. No. 18190.
25334. "Native name *Soch* (Sopieng). Light clay and sandy soils. Grows 2 to 3 meters high. An early variety, ripening in 4 months. Used for flour because of the very white seed coats." Variety *elegans* Keke. White seeded.
25335. "Native name *Somung*. Soils as in Togo No. 6 (S. P. I. No. 25333). Grows 2 to 3 meters high. Early ripening sort with white seeds like Togo No. 7 (S. P. I. No. 25334)." Variety *elegans* Keke. A red-seeded form equivalent to S. P. I. No. 18196.
25336. "Native name *Langpategu*. Soils as in No. 6 (S. P. I. No. 25333). Heads shorter and more compact than in the preceding forms, white-trilled. An early variety used for making beer and flour. The most prized variety of the Maba people." Represents the variety *intermedius* B. & P. Remarkable for its bluish gray seed; somewhat like a *New Era* cowpea in color.
25337. "Native name *Pebate*. Grows 3 to 4 meters high. A late ripening variety, requiring 6 months to mature." Variety *elegans* Keke., having shorter, blunter, and more compressed glumes.
25338. "Native name *Tanyou* (lila)." Variety *intermedius* B. & P. Very similar to S. P. I. No. 25336.
25339. "Native name *Nyumbayone bimle* (Doppelfrucht). Originally from Haut Senegal, Guinea. In this variety the black glumes contain always 2 kidney-shaped white seeds." Belongs apparently to variety *elegans* Keke., but differs from all other forms in having 2 seeds to each spikelet, a condition which occurs in a number of varieties from India.
25340. "Native name *Beningo* (Pferdefutter). With specially hard-hulled seeds. Used for horse feed." Probably variety *bicolor* Keke. Seeds pure white, equaled in length by the jet-black shining glumes, a form not previously reported from Togoland.
25341. "Native name *Ehpeto* (gelb). Grows 3 to 4 meters high. A late ripening sort, requiring 7 months. The meal has a somewhat bitter taste." Belongs to variety *kerstingianus*, subvariety *sulfureus* B. & P. Remarkable for its sulphur-yellow seed. Equivalent to S. P. I. No. 18147.

**25328 to 25344—Continued.****25328 to 25342—Continued.**

**25342.** "Native name *Sotemondi*. From light sandy soils; 3 meters high; a late ripening variety. The leaves contain a coloring matter used for cloth and leather; otherwise used only for chicken feed." Variety *colorans* Pilger. Seeds of this variety are used for producing a red color or by the addition of the leaves of certain trees they may be used for producing a black color. Equivalent to S. P. I. No. 18165.

**25343 and 25344. PENNISETUM AMERICANUM (L.) Schum. Pearl millet.**

**25343.** "Native name *Nyepé* (weiss). Grown on the lighter sandy soils; 1.5 meters high."

**25344.** "Native name *Nyepé* (dunkel). Grown on the lighter sandy soils; 1 to 1.5 meters high."

**25347. MUCUNA ATROPURPUREA (Roxb.) DC.**

From Peradeniya, Ceylon. Presented by Dr. John C. Willis, director, Royal Botanic Garden. Received April 23, 1909.

*Distribution.*—A woody climber, native of the plains of India and Ceylon.

**25350. CHALCAS PANICULATUS L.**

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Botanic Gardens. Received April 30, 1909.

"The wood is close grained, hard, white, and has been used for wood engraving." (*Brandis, Forest Flora of India.*)

*Distribution.*—A tree or shrub, native of southeastern Asia, where it rises to an elevation of 4,500 feet in the Himalaya Mountains, and of the Malay Archipelago and Australia. Cultivated in gardens as an ornamental in its native countries and in southern Florida and California; also used as a greenhouse plant.

**25351 to 25371.**

From Madrid, Spain. Presented by Dr. Luis Atrido y Ramos, director, Botanic Gardens. Received April 13, 1909.

The following seeds:

**25351. AVENA NUDA L.****25352. AVENA PLANICULMIS Schrad.**

*Distribution.*—A native of the meadows in the mountainous parts of southern Europe and Asia Minor.

**25353 to 25360. AVENA SATIVA L.****25361 to 25363. AVENA STERILIS L.**

*Distribution.*—A native of the Mediterranean region, found as a weed in cultivated fields.

**25364. AVENA STRIGOSA Schreb.**

*Distribution.*—A native of Europe and western Asia, cultivated and occurring as a weed in cultivated fields.

**25365 to 25367. AVENA sp.****25368. DESCHAMPSIA ALPINA (L.) R. & S**

*Distribution.*—A native of northern Europe, being found mostly along streams and on lake shores.

**25351 to 25371—Continued.**

**25369 to 25371.** *DESCHAMPSIA ATROPURPUREA* (Wahlenb.) Scheele.

*Distribution.*—A native of arctic regions, extending from Alaska to Labrador, and in northern Europe and Siberia.

**25389 and 25390. AVENA SATIVA L.****Oat.**

From Seville, Spain. Presented by Mr. R. L. Sprague, American consul, Gibraltar, Spain. Received April 30, 1909.

**25435. LECYTHIS USITATA Miers. (?)****Sapucaia nut.**

From Port of Spain, Trinidad, British West Indies. Presented by Dr. E. Andre. Received May 1, 1909.

"This is the species which produces the well-known sapucaia nuts of commerce; it abounds in the island of Caripe and other parts of the province of Para (Brazil)." (*J. Miers, Transactions, Linnean Society, vol. 30, p. 208.*)

**25436. TUMBOA BAINESII Hook. f.**

From German Southwest Africa. Presented by Prof. J. Burt Davy, government agrostologist and botanist, Transvaal Department of Agriculture, Pretoria, Transvaal, South Africa. Received May 1, 1909.

"A peculiar and rare monotypic plant of the deserts of German Southwest Africa. The short stem produces at its swollen apex, besides the cotyledons, in its entire lifetime only a single pair of yard-long ribbonlike leaves between which are borne the conelike inflorescences. The plant represents in its development (like *Gnetum*, see No. 19003) a transition stage between the lower gymnosperms, like the pines, and the angiosperms, or flowering plants." (*W. Fischer.*)

*Distribution.*—A native of the stony desert plains in the vicinity of Mossamedes and Cape Negro in Portuguese West Africa, and in Damara-land in German West Africa.

*Note.*—This plant is the *Welwitschia mirabilis* of the botanical text-books and is as yet not generally known to the general reader under the above Latin name.

**25437 to 25440.**

From China. Procured from Mr. H. J. Openshaw, Yachow, Szechwan Province, via Chungking, West China. Received March 3, 1909.

The following seeds; Chinese names given by Mr. Openshaw.

**25437 and 25438.** *GLYCINE HISPIDA* (Moench) Maxim.

**Soy bean.**

**25437.** *Huang dou.* Looks like *Acme*.

**25438.** *Lu dou.* Very similar to *Guelph*.

**25439.** *PISUM ARVENSE* L.

**Field pea.**

*Wan dou.*

**25440.** *DOLICHOS LABLAB* L.

**Bonavist bean.**

*Beh pien dou.* White.

**25464. CUCUMIS MELO L.****Muskmelon.**

From Yokohama, Japan. Purchased from the Yokohama Nursery Company. Received May 5, 1909.

*Makuwa-uri.*

**25464—Continued.**

"This is produced much in the village Makuwa, in the province of Mino, whence the name is derived. The male and female flowers are grown separately on the same vine. The fruits ripen in midsummer. They are oval shaped, about 5 inches long, and of a yellow color, with longitudinal stripes. They are eaten 1 or 2 days after having been collected, and are very sweet and delicious. There are several varieties of different colors and forms." (*Yokohama Nursery Company.*)

**25465. MELILOTUS INDICA (L.) All.****Melilot.**

From King Island. Presented by Mr. Henry S. Baker, American consul, Hobart, Tasmania. Received April 20, 1909.

This yellow-flowered melilot, which has made for itself such an enviable reputation in the improvement of the soil of King Island, was introduced there supposedly from the mattresses left on the shore by sailors or washed up on the beach from wrecks of vessels along the coast.

Mr. Henry D. Baker, American consul, Hobart, Tasmania, has furnished the following information about its usefulness on King Island:

Melilot has in the last few years transformed the island, which seemed absolutely barren or given up to worthless vegetation, including chiefly bracken fern and ti-tree scrub, Tussock grasses and rushes, into what is now the most profitable grazing and fattening area in Australasia. It has grown even on raw white sand near the seashore, and in the course of 5 or 6 years has transformed the soil into rich, dark-brown, almost black loam, and made it capable of growing good crops of oats, lucern, etc. Land which half a dozen years ago was worth only a little over one dollar an acre now has an assessed valuation, where melilot is thriving, of about 35 dollars an acre.

Not until there had been severe fires over the island did the growth of melilot become luxuriant or have its usefulness recognized. The seed, encased in a hard shell, appears to germinate more quickly when this shell has been cracked open by fire. Farmers, in securing a stand of melilot on new ground, sow the seed in the scrub and bracken ferns late in the fall or winter and then burn off the brush. This burning of the brush adds potash to the soil and covers the seed, and also improves the germination, as stated previously. If a rain follows the fire, the seed usually germinates quickly and an excellent growth is secured.

This melilot is strictly an annual and dies off each year, the practice being to burn the old stems in January and February. This burning clears the soil of rubbish, and the stand of melilot becomes more perfect each season.

Melilot, in the latter part of November, was on the average about 3 feet high. Cut for hay about the middle of December, it makes splendid feed and all stock like it in this form. The estimated average yield of melilot in dry hay is 2½ tons per acre. Melilot-fed horses are of great size and strength, and have great endurance.

Mr. Baker suggests that melilot might possibly be introduced to advantage on the sandy wastes along the Atlantic and Pacific coasts of the United States, where the climatic conditions are not unlike those of King Island, which is intercepted by the fortieth degree of south latitude and normally has a good rainfall.

It would be a mistake to consider melilot better than alfalfa or other useful home fodders, its advantage being in its ability to redeem poor land. On very fertile soil in New South Wales and Victoria it has proved a rather baneful weed.

**25466. RUBUS sp.****Raspberry.**

From Bataan Mountains, Philippine Islands. Presented by Mr. William S. Lyon, Gardens of Nagtajan, Manila, Philippine Islands. Received May 7, 1909.



**25466—Continued.**

"A rather promising and prolific wild red raspberry. It was in fully ripe fruit March 1 and found at 3,700 feet altitude on dry, rocky, sterile ridges. Should prove hardy. A little dry, not offensively so and quite as showy as the best garden *Cuthbert* I ever recall seeing." (*Lyon.*)

**25467. SOLANUM ZUCCAGNIANUM Dunal.**

Grown at Miami, Fla., by Mr. P. J. Wester, in charge, Subtropical Garden. Numbered for convenience in recording distribution, May 8, 1909.

An herbaceous plant, growing about 2 feet high, with smooth, ovate, wavy-margined leaves on long petioles. The flowers are white, borne in clusters of 1 to 3 or more, on short, drooping stems. The fruit is round, about  $\frac{1}{2}$  inch in diameter, roughened and furrowed, becoming red when ripe.

**25468. GLYCINE HISPIDA (Moench) Maxim.****Soy bean.**

From Madison, Wis. Purchased from the L. L. Olds Seed Company. Received May 8, 1909.

*Wisconsin Black.* "This variety has proved to be one of the earliest growing in Wisconsin, but gives a relatively poor yield of seed and forage. While the records are somewhat incomplete, it is almost certainly the direct descendent of S. P. I. No. 5039." (*C. V. Piper.*)

**25469. ORYZA SATIVA L.****Rice.**

From Canton, China. Presented by Mr. Leo Bergholz, American consul-general, at the request of Mr. Amos P. Wilder, American consul-general, Hongkong, China. Received May 8, 1909.

*Semin.* "This is absolutely the best rice grown within this province." (*Bergholz.*)

**25470 to 25504.**

From Chile. Received through Mr. José D. Husbands, Limávida, Chile, April 27, 1909.

Seed of each of the following. Quoted notes by Mr. Husbands.

**25470. LAPAGERIA ROSEA R. & P.**

"*Coigüe.* A comestible fruit and handsome evergreen vine, very like *Copique*; strange flowers, medicinal; thrives in the shade on damp soil."

*Distribution.*—An evergreen vine, found climbing over trees and shrubs in the woods about Concepcion and in the valley of the Rio Itata, in Chile.

**25471. ACAENA sp.**

"*Cadillo.*"

**25472. RUMEX ROMASSA Remy.**

"A pest plant that will grow dry anywhere; the leaves are eaten like spinach; animals eat the leaves of this class from the south of Puerto Montt. Might serve to start vegetation in some barren place. Medicinal."

*Distribution.*—An herbaceous plant, found growing around the villages and along the roadsides in the provinces of Chiloé and Valdivia, in Chile.

**25473. GREIGIA LANDBECKI (Lechl.) Philippi.**

"*Chupones* from Chiloé."

*Distribution.*—A native of the mountainous coast of Chile, in the province of Valdivia.

## 25470 to 25504—Continued.

25474. *SALIX HUMBOLDTIANA* Willd.

"Wild willow; grows in the sand near rivers. Medicinal."

*Distribution*.—A native of Central and South America, extending from southern Mexico through Colombia to Chile and Brazil.

## 25475. (Undetermined.)

"Forest trees from near Puerto Montt."

25476. *GREIGIA SPHACELATA* (R. & P.) Regel.

"*Chupones* from Valdivia."

*Distribution*.—A native of damp, shady places in the vicinity of Concepcion, Chile.

25477. *GUNNERA CHILENSIS* Lam.

"*Pangue*, from Puerto Montt. Comestible by man and beast; ornamental; medicinal; needs very damp or wet soil or water."

*Distribution*.—A large-leaved herbaceous perennial found in shallow water and swamps in Chile.

25478. *SOPHORA MACROCARPA* Smith.

"*Mayu*. A treelet with large bunches of beautiful yellow flowers."

*Distribution*.—A shrub or small tree, with racemes of yellow flowers, native of Chile.

25479. *SOPHORA TETRAPTERA* J. Mill.

"*Pelú*. One of the finest flowering forest trees; wood extra valuable; yellow flowers."

*Distribution*.—A shrub or small tree, native of New Zealand, Lord Howe Island, Juan Fernandez, and Chile. Several varieties are in cultivation.

25480. *PHYSALIS* sp.

"*Capuchinos*. A wild, comestible hooded tomato; round; yellow;  $\frac{5}{8}$  to  $\frac{3}{4}$  inch in diameter; a smooth ball. Perennial."

25481. *GALEGA OFFICINALIS* L.

"Plant like alfalfa. Two plants found growing in a sand island of the river Mata Quita. The habits, growth, and flowers are like alfalfa; stems hollow and when cut plant grows again quickly; seed pods different. Has a large dense leaf growth. Cattle eat this, but not horses. I should like to know what would come of crossing this with alfalfa."

## 25482. (Undetermined.)

25483 and 25484. *MEDICAGO SATIVA* L.

Alfalfa.

25483. "A wild sort from the cordillera; a single plant found in the midst of the woods. The same as cultivated sorts. Flowers very dark; might be so from the wood shade."

25484. "Same as above (S. P. I. No. 25483); another plant in a distant part."

25485 and 25486. *TRIFOLIUM HYBRIDUM* L.

Alsike clover.

25485. "Crimson wild sort; beautiful."

25486. "White wild sort."

25487. *TRIFOLIUM PRATENSE* L.

Red clover.

"Pink, large, cone-shaped flowers; wild."

## 25470 to 25504—Continued.

## 25488. (Undetermined.) (Asteraceae.)

"A perennial plant; whitish leaves; pink flowers; might serve as a fodder plant. Cattle and mules eat it; grows dry in pure sand near vast river beds."

## 25489. CRINODENDRON PATAGUA Molina.

"*Patagua*. A beautiful, evergreen shade tree; drooping, white, bell-shaped flowers; tree formed like a weeping willow. Needs damp soil, beside running water, swamps, etc. Lumber lasts long dry. Bad for fuel wood."

*Distribution*.—A medium-sized tree, growing in the low, swampy woods in the vicinity of Puchacay and Itata, and in the province of Maule, in Chile.

## 25490. EUCRYPHIA CORDIFOLIA Cav.

"*Ulmo* is a hardy giant Chilean forest tree, known from Chile to Victoria as *ulmo*; farther south to Valdivia, Chiloé, and in the far south it is called *muermo*. The wood is hard, fine, and extra durable in water; is largely used for piles driven in the sea, in naval construction, furniture, the industries, etc. Its planks and knees are better than live oak for shipbuilding. The bark and scraped wood contain a great quantity of tannin and are largely used for tanning. The wood shavings are used anywhere that tannic acid is required instead of the acid itself. In combination with linge (*Persea lingue*) the *ulmo* has special merits for tanning.

"As a tree *ulmo* is one of the largest and is extremely handsome; its dark, evergreen, lustrous leaves are so whitened underneath as to be very ornamental. When in flower it is gloriously beautiful. The shape of its white flowers is similar to that of the apple or quince, about 2 inches in diameter. The entire tree is actually covered with immense grand bunches of these flowers, forming an ideal fairy tree of snow, whose bloom is deliciously and incomparably fragrant.

"The *ulmo* is not particular as to soil, but, like linge, needs those that are very damp or wet; in fact, they always grow together as comrades, linge enhancing the beauteous bloom of the *ulmo* upon its superbly dark evergreen leaves."

*Distribution*.—A tall, white-flowered tree, native of the region around San Carlos, in Chile.

## 25491 and 25492. EMBOTHRUM COCCINEUM Forst.

25491. From Puerto Montt.

25492. From Chiloé.

"*Ciruelillo*. A beautiful flowering tree; blossoms red."

*Distribution*.—A native of the southern part of Chile.

## 25493. WEINMANNIA TRICHOSPERMA Cav.

*Teniu*.

*Distribution*.—A small tree, found in the region of San Carlos, in Chile.

## 25494 to 25503. CUCUMIS MELO L.

Muskmelon.

"All sweet; thick flesh; good size; grown dry on low lands where corn and watermelons dried up on account of the unusual drought. Melons grown with much less moisture than watermelons and have no diseases like the latter. Every number is a different kind."

## 25504. CITRULLUS VULGARIS Schrad.

Watermelon.

**25505. MANGIFERA INDICA L.****Mango.**

From Miami, Fla. Received from Mr. P. J. Wester, in charge, Subtropical Garden, May 24, 1909.

*Gopalbhog.* "The plant from which this inarch was taken was sent to the garden in 1906 by Mr. E. N. Reasoner, of the Royal Palm Nurseries, Oneco, Fla., who imported it from India in 1904." (*Wester.*)

**25506. CITRUS DECUMANA (L.) Murr.****Pomelo.**

From Amoy, China. Presented by Mr. Julean H. Arnold, American consul. Received at the Plant Introduction Garden, Chico, Cal. April 10, 1909.

*Amoy.* See No. 21870 for previous introduction and note.

**25507. MANIHOT DICHOTOMA Ule.**

From Bahia, Brazil. Presented by Mr. Stevenson, agent of the Royal Mail Company. Received May 25, 1909.

*Maniçoba de Jequié.*

"The *Maniçoba de Jequié* differs from the *Manihot glaziovii* (Muell.) Arg. in having 3 to 5 lobed leaves, and longer seeds. The tree composes about half of the forest on many of the slopes of the mountains in its native region, and furnishes four to five hundred tons of rubber each year. The plant has only been known since 1901, and the cultivated plantations are just ready to be tapped for the first time." (*Ule, Tropenpflanzer, vol. 11, p. 863.*)

*Distribution.*—A tree, native of the mountainous region between the Rio Paraquassu and the Rio de Contas, in the eastern part of the province of Bahia, in Brazil.

**25508. SCHOENOCALON OFFICINALE (Schlecht.) Gray. Sebadilla.**

From New York, N. Y. Presented by Lanman & Kemp, at the request of Dr. L. O. Howard, entomologist. Received May 20, 1909.

See No. 24195 for description.

*Distribution.*—A native of southern Mexico, in the vicinity of Zimapan, Orizaba, and Vera Cruz, and also of Guatemala and Venezuela.

**25509. CITRUS DECUMANA (L.) Murr.****Pomelo.**

From Daunt, Cal. Presented by Mr. A. W. Patton, at the request of Mr. Carl Purdy, Ukiah, Cal. Received May 27, 1909.

"This fruit is undoubtedly fine, but the tree has little or no history. It was put out by Mr. A. M. Coburn 10 or 12 years ago. He got the trees from Los Angeles. The only reason we can give for the fruit being extra good is the climatic conditions which prevail here in the foothills of the Sierra Nevada Mountains." (*Patton.*)

**25510. ASTRAGALUS sp.**

From Mongolia. Presented by Mr. W. W. Rockhill, American minister, Peking, China, who procured it from Monseigneur Bermyn, Bishop of West Mongolia. Received May 5, 1909.

White flowered.

**25511. EUPHORBIA ANTISIPHYLITICA Zucc.****Candelillo.**

From Saltillo, Mexico. Presented by Mr. J. R. Silliman. Received May 12, 1909.

**25511—Continued.**

"A wild euphorbiaceous Mexican plant which is of great interest because the dry stems yield, it is claimed, from 3 to 5 per cent of a fine hard wax which seems suited to coating phonograph cylinders and similar uses. Grows in the dry semidesert regions of north-central Mexico, Lower California, and southwest Texas." (*Frederic Chisolm.*)

*Distribution.*—A native of the sandy and stony slopes in the Rio Grande Valley, in Texas and Mexico.

**25512. VIGNA UNGUICULATA (L.) Walp.****Cowpea.**

From New Orleans, La. Purchased from the J. Steckler Seed Company.  
Received April 29, 1909.

*Steckler's Improved Louisiana Wild.* "This variety, which is really a mixture of varieties, is naturalized in parts of Louisiana, where it volunteers from year to year. It has been grown at Arlington Farm, Virginia, for the past 3 years, and proves to be a tall, upright, quite leafy, late variety. Too late for this latitude, but would probably be a valuable variety for Florida, where lateness is desired." (*C. V. Piper.*)

**25513. GERBERA JAMESONI Bolus.****Barberton daisy.**

From Cape Town, South Africa. Presented by Mr. H. J. Chalwin, superintendent, Public Gardens. Received May 1, 1909.

"This has a beautiful flower, orange-red in color." (*Chalwin.*)

*Distribution.*—A native of the Transvaal region of South Africa, especially in the vicinity of Barberton.

**25514. MUCUNA GIGANTEA (Willd.) DC.**

From Richmond River, New South Wales, Australia. Presented to Mr. J. H. Maiden, director and government botanist, Botanic Gardens, Sydney. Received May 12, 1909.

"This is a tall tree-climbing tropical plant, extending over East India and the Malayan and South Pacific Islands. In New South Wales it only occurs in the northern districts." (*Maiden.*)

**25515. CYPHOMANDRA BITACEA (Cav.) Sendt.****Tree tomato.**

From Kingston, Jamaica. Presented by Mr. W. Harris, superintendent, Hope Botanic Gardens. Received May 13, 1909.

See No. 12758 for description.

*Distribution.*—Native and cultivated in Central and South America, extending south to the vicinity of Buenos Aires. Also cultivated in the West Indies, in the Mediterranean region, and other countries.

**25516 and 25517.**

From Gobindapur, India. Presented by Mr. A. C. Roy, secretary, Comilla Victoria College. Received April 19, 1909.

Seed of each of the following:

**25516. PHASEOLUS RADIATUS L.**

Black.

**25517. LATHYRUS SATIVUS L.**

**25518 and 25519. AVENA SATIVA L.****Oat.**

From Maritime Alps, i. e., near Tenda, Italy. Presented by Mr. Alwin Berger, La Mortola, Ventimiglia, Italy. Received May 6, 1909.

Seed of each of the following:

**25518.** (Marked No. 1.)

**25519.** (Marked No. 2.)

**25520 and 25521. OLEA VERRUCOSA (R. & S.) Link. Wild olive.**

From Wellington, Cape of Good Hope, South Africa. Presented by Mr. Charles P. Lounsbury, government entomologist, Cape of Good Hope, Department of Agriculture, Cape Town, South Africa. Received May 18, 1909.

**25520.** Cuttings.

**25521.** Seeds.

See Nos. 9124 and 9559 for previous introductions.

*Distribution.*—A tree, native of the southern part of Africa, extending from the Cape of Good Hope to the Transvaal region.

**25522. LOLIUM MULTIFLORUM Lam.****Rye-grass.**

From Westerlee, Groningen, Holland. Presented by Hommo Ten Have. Received May 19, 1909.

*Western Wolths.* "This new grass was produced by selection from ordinary rye-grass in the county of Westerwolde, Holland, near the German frontier. In appearance the seed can not be distinguished from Italian rye-grass, but *Western Wolths* grass is strictly an annual plant and far surpasses Italian rye-grass in the rapidity of its growth and the weight of herbage. On good soils, when top-dressed with nitrate of soda, it may be cut 5 or 6 times during the summer. It will thrive on almost all soils, but best results are obtained on heavy loam, clay, or land of a somewhat damp character." (*Extract from circular issued by Hommo Ten Have, wholesale seed merchant, Westerlee, Groningen, Holland.*)

**25523. PHASEOLUS CALCARATUS Roxb.**

Grown at Arlington Farm, Virginia, season of 1908, under temporary No. 0513. Received fall of 1908.

"A small red-seeded variety, obtained from the Tokyo Botanic Garden, Tokyo, Japan, in 1906." (*C. V. Piper.*)

**25524 and 25525. CYNARA SCOLYMUS L.****Artichoke.**

From Paris, France. Purchased from Vilmorin-Andrieux & Co. Received May 12 and 13, 1909.

Seeds of the following:

**25524.** *Green Provence.*

**25525.** *Perpetual.*

**25527. BUCHANANIA LATIFOLIA Roxb.**

From Kavali, Nellore District, India. Presented by Rev. E. Bullard. Received May 17, 1909.

"This is called in the Lelugu language *sara* tree. The fruit is gathered and the pulp being removed the seed is cracked and the inside kernels are eaten as we eat nuts. It is very rich and is considered to be very nice and is eaten roasted a little and, if desired, with honey or salt; it is very wholesome, but should be eaten in small



**25527—Continued.**

quantities only at a time, say not more than a handful of the fruit at a time. The outside part of the fruit is also eaten. The inner part of the seed is sold at the rate of about 20 cents a quart measure full. The tree grows about as high as a small orange tree." (*Bullard.*)

"A large tree belonging to the Anacardiaceae, to which the pistaché nut and cashew nut also belong. Its characteristic bark makes this tree conspicuous wherever it is found. On dry hills like the Siwalik Range it is very useful in covering the ground, and it is equally at home on newly formed land-slips as on gentle slopes with fairly good soil. The wood is of poor quality. Brandis says the bark is used for tanning. It gives a gum copiously in large irregular pieces; this gum is only partially soluble in water (about 10 per cent insoluble), but what is soluble gives a good mucilage, and it has been reported as likely to be useful for cheap manufacturing purposes and valued at 20s. per cwt." (*Extract from Gamble's Manual of Indian Timbers.*)

*Distribution.*—Found in the hot, dry parts of India, from Kumaon and Oudh, through central India, and into Burma and Tenasserim, in the eastern peninsula.

**25528 to 25530.**

From Paraguay, South America. Presented by Mr. Thomas Ruffin Gwynn, Capilla Horqueta, Departamento de V. Concepcion. Received May 19, 1909.

The following seeds:

**25528. ROLLINIA EMARGINATA Schlecht. (?)**

"*Chirimouia* (araticúy). It is a large fruit, aromatic to the utmost; seed full of oil." (*Gwynn.*)

*Distribution.*—A native of southern Brazil and the northern parts of Argentina and Paraguay.

**25529. ILEX PARAGUARIENSIS St. Hil.**

"*Yerba* (caí). The tea of this country. To procure plants from this seed it will be necessary to put it in hot water of about 90° F. for 26 hours, then plant in a hotbed, the seed being buried about  $\frac{1}{2}$  inch under a soft mold, constantly watered every day. When large enough to harvest, you cut all the limbs and twigs, scorch well, and dry twigs and leaves over a hot fire, after which twigs and leaves are ground fine and used as tea, being put in a small gourd with hot water poured on, and a tube perforated at the bottom to suck up the same." (*Gwynn.*)

*Distribution.*—A native of Paraguay and cultivated in Argentina and Brazil.

**25530. BOMBAX sp.**

"Vegetable silk (paina), used here for pillows and mattresses, though some fine hammocks and shawls have been woven out of it. This plant opens its pod in July and August here, representing October and November with us." (*Gwynn.*)

**25532. GLADIOLUS sp.**

From Pretoria, Transvaal, South Africa. Presented by Mr. F. T. Nicholson, secretary, Transvaal Agricultural Union. Received May 21, 1909.

**25533 and 25534.**

From Ancon, Canal Zone, Panama. Presented by Mr. H. F. Schultz. Received May 27, 1909.

**25533 and 25534—Continued.**

The following seeds:

**25533.** PRITCHARDIA PACIFICA Seem. & Wendl.

A spineless fan palm, remarkable for its fibrous, fluffy leafstalks.

*Distribution.*—A native of the Fiji and the Samoa Islands.

**25534.** CARLUDOVICA sp.

**25535 and 25536. BELOU MARMELOS (L.) W. F. Wight. Bael.**

From India. Presented by Mr. A. Howard, Imperial Department of Agriculture, Pusa, Bengal. Received April 30, 1909.

Seed of each of the following:

**25535.** A variety from Madhaipore, near Dalsing Serai.

**25536.** A small variety from Dalsing Serai, Tirhoot, which is considered to have a good flavor.

See Nos. 22957 and 24450 for general descriptive notes.

*Distribution.*—A small tree, native of India, being found on dry hills from Jhelum to Assam and south to Travancor.

**25537. MEDICAGO SATIVA L. Alfalfa.**

From Mitchell, S. Dak. Presented by Prof. W. A. Wheeler. Received May 29, 1909.

*Baltic.* "Grown from S. D. No. 167. This strain, which was originally secured near Baltic, S. Dak., has proved extremely hardy and drought resistant; it possesses the same variegated flowers that are to be observed in the *Grimm* alfalfa and the commercial sand lucern." (*J. M. Westgate.*)

**25538 to 25540. CUCUMIS MELO L. Muskmelon.**

From Spain. Presented by J. Lapoulide & Co., Madrid, at the request of Hon. Maddin Summers, American vice-consul. Received May 20, 1909.

"Three varieties, as follows: From Añover, large and sweet. From Valencia, early and very productive. From Villaconejo, valuable for its keeping qualities." (*Lapoulide & Co.*)

"I frankly believe that the introduction of these muskmelons in the United States is a most important matter. The fact is I know of no plant that can equal this one in intrinsic value to the farmer. To say that a successful cultivation of it may mean millions is very little. It means hundreds of millions in time and will be a boon to our farmers entirely unexpected.

"It has been a mania of mine for years, but I have had difficulty in getting some one interested in the matter. In my humble opinion if we can introduce this product, my work as consul here will be well crowned, as the results will be incalculable.

"I do not know if you exactly appreciate the magnificence of this fruit. Our cantaloupes and other classes of melons are common as compared with a first-class Spanish 'melon.' During the month of January and February I had a large lot hanging in my cellars suspended by hemp coverings. Several very prominent New York club men, who were very particular about their menus and criticised the Hotel de la Paix and the Hotel de Paris for their food, dined with us. It appears that their great complaint came from the fact that in Spain, a country famous for its fruits, they could find nothing that warranted this 'fama.'

## 25538 to 25540—Continued.

"I then put several melons on ice—imagine in February—and they were served. At first they hesitated, and could not believe that a green looking melon, at that time of the year, could be eaten. They tried it, and asked that others be put on ice, as they had never tasted so delicious a fruit in their lives. They took with them a large quantity and asked me the address of a dealer to have a lot sent to them in New York. The next day they wrote me a letter and asked if they could come to tea and if I would have some more of these melons on ice.

"This fact will show you really what they are. These melons can easily be kept until March by paying great attention to the dryness of the cellars where they are kept. The yield per acre is very large and the great question is to obtain pure seeds. There are, however, planters who pay great attention to the matter and grow on their estates only the pure melon. In Guadálajara there are some and in Valencia there are the best.

"They are never hung in the sun to ripen. They are picked just before ripening, covered with a jute net, and hung up in a dark, dry place. When they are to be eaten they are taken out, hung in the sun for a short time, and when soft at the ends are ready for use." (*Extract from letter of Hon. Muddin Summers, April 20, 1909.*)

## 25541 and 25542.

From Sibpur, Calcutta, India. Presented by Prof. A. T. Gage, superintendent, Royal Botanic Garden. Received June 2, 1909.

Seed of each of the following:

25541. *TERMINALIA BELLERICA* (Gaertn.) Roxb.

"A handsome tree, native in southern Asia, the fruits of which, collected when full grown but still unripe, and dried in the sun, form the Beleric myrobalans of commerce. These fruits contain about 12 per cent of tannin, but as a tanning material are inferior to the fruits of the following species." (*W. W. Stockberger.*)

*Distribution*.—A large tree, found throughout India, and in Ceylon and the Malay Archipelago.

25542. *TERMINALIA CHEBULA* Retz.

"A large deciduous tree, occurring chiefly on the mountains of India. The fruits, known as Chebulic myrobalans, are extensively used in tanning, over 20,000,000 pounds being imported into the United States in 1908 for that purpose. These fruits yield from 30 to 40 per cent tannin, which occurs chiefly in the pulp surrounding the kernel. The tree is occasionally cultivated up to 5,000 feet in the Himalayas. Seedlings grown at Chattanooga, Tenn., were cut down by frost." (*W. W. Stockberger.*)

*Distribution*.—A tall tree, native of India, extending from Kumaon to Bengal, and in Ceylon and the Malay Archipelago.

25543. *ACACIA CATECHU* (L.) Willd.

From Saharanpur, United Provinces, India. Presented by Prof. A. T. Gage, superintendent, Royal Botanic Garden, Sibpur, Calcutta. Received June 2, 1909.

"A leguminous tree, native of India and East Africa, naturalized in Jamaica, where it is common in dry locations. It is said to bear some frost and may prove hardy in favorable localities in the southern United States. The extract from the

**25543—Continued.**

bark and wood forms the drug catechu, and the dyeing and tanning agent 'cutch.'" (W. W. Stockberger.)

*Distribution.*—A medium-sized tree, native of India, being found in the Himalayas from the Punjab to Sikkim, and in Burma.

**25544 to 25546.**

From Alger-Mustapha, Algiers, North Africa. Purchased from Rossier Frères et Soeur. Received May 29, 1909.

Plants of each of the following:

**25544. CITRUS BERGAMIA** Risso.

"This is the bergamot, grown commercially in some parts of southern Italy for the essential oil which is expressed from the peel of the fruit. This has been imported for the citrus-breeding experiments of the Office of Crop Physiology and Breeding Investigations." (W. T. Swingle.)

**25545. CITRUS NOBILIS** Lour.

*Clémentine.* See No. 25196 for description.

**25546. CLAUCENA LANSIUM** (Lour.) Skeels. (*Cookia punctata* Sonnerat.; *Quinaria lansium* Lour.; *Claucena wampi* Oliver.)

"This is the well-known wampee which is cultivated for its fruits in southern China. These fruits are said to be of a very agreeable though somewhat aromatic flavor and are about the size of a loquat, though the tree is probably not so hardy. These plants were imported for the breeding experiments of the Office of Crop Physiology and Breeding Investigations." (W. T. Swingle.)

**25547. Raphionacme utilis** Brown & Stapf. **Ecanda rubber.**

From Ochilesio, Africa. Presented by Mr. T. W. Woodside, A. B. C. F. M., Benguela, Angola (via Lisbon). Received June 1, 1909.

"A rubber-producing member of the milkweed family, recently described as a new species. (Kew Bulletin, 1908, p. 215.) The genus already includes about 20 species distributed through the subtropical desert regions of the southern part of Africa. The plant may be described as a perennial herb or very low shrub. There is a large, fleshy, flattened, turnip-shaped, perennial root, said to attain a diameter of 5 or 6 inches, though the present supply does not contain roots larger than 4 inches. The other parts of the plant are annual, except for a short stem or crown which produces a succession of short branches, but apparently only one at a time. Temporary roots appear to be sent out from any part of the permanent root.

"The structure and habits of growth indicate that the plant behaves in nature as an extreme desert type able to survive with very little water and requiring several years to reach maturity. More favorable conditions might hasten development, but might also have an adverse effect on the amount of rubber produced. The proportion of rubber extracted from the fresh roots falls below 1 per cent, too little to justify any assurance of commercial value. But if simple methods of propagation can be learned we may expect to secure strains that contain larger amounts of rubber, through selection and breeding. It is first necessary to ascertain whether the plant can be grown and multiplied in the United States, either from seeds or from cuttings.

"The roots should not be buried too deeply, only enough to bring the stem end to the surface of the ground. Soil of a loose, open texture may be preferable, though we have no detailed information regarding the natural conditions." (O. F. Cook.)

**25547—Continued.**

"I am told that the keeping qualities of the bulb rubber are not good. I do not think that the Portuguese are very competent to decide that matter. The plant bears a pod full of seeds, so that if it proves of value seeds could be had in quantity." (*Woodside.*)

*Distribution.*—An herbaceous perennial, found in the vicinity of Lake Nyassa, in Central Africa.

**25561. MEDICAGO SATIVA L.****Alfalfa.**

Received through Prof. N. E. Hansen, of the Agricultural Experiment Station, Brookings, S. Dak., while traveling as an agricultural explorer for the Department of Agriculture in 1908. Numbered for convenience in keeping records, June 9, 1909.

"(No. 248.) Plants of native alfalfa as grown by the Arabs in the oases of the Desert of Sahara. These I received at Biskra, Algiers, January, 1909." (*Hansen.*)

**25580 to 25591. AVENA SATIVA L.****Oat.**

From Bucharest, Roumania. Presented by Hon. Horace G. Knowles, envoy extraordinary and minister plenipotentiary, American Legation. Received May 22, 1909.

The following seeds:

<b>25580.</b> <i>Duppau.</i>	<b>25586.</b> <i>Probstei.</i>
<b>25581.</b> <i>Anderbeck.</i>	<b>25587.</b> <i>Besseler No. 1.</i>
<b>25582.</b> <i>Mezdeag.</i>	<b>25588.</b> <i>Leutewitz.</i>
<b>25583.</b> <i>Bucium.</i>	<b>25589.</b> <i>Comun.</i>
<b>25584.</b> <i>Besseler No. 2.</i>	<b>25590.</b> <i>Besseler No. 3.</i>
<b>25585.</b> <i>Ligoro.</i>	<b>25591.</b> <i>Românesi selection.</i>

**25592 and 25593.**

From Sianfu, Shensi, China. Presented by Mr. D. C. Sowers, of the Carnegie Institute, Washington, D. C. Received March 31, 1909.

Seed of the following:

<b>25592.</b> <i>BRASSICA RAPA L.</i>	<b>Turnip.</b>
Large flat green.	
<b>25593.</b> <i>RAPHANUS SATIVUS L.</i>	<b>Radish</b>
Red.	

**25594 and 25595. CUCURBITA PEPO L.****Squash.**

From Japan. Presented by Mr. J. R. Lawrence, Raynham, Mass. Received June 5, 1909.

The following seeds:

- 25594.** *Chirimen.*
- 25595.** *Rikusa.*

**25596 to 25604. ORYZA SATIVA L.****Rice.**

From Port of Spain, Trinidad. Purchased from Mr. F. Evans, acting superintendent, botanical department, Department of Agriculture. Received June 8, 1909.



**25596 to 25604—Continued.**

The following varieties:

**25596.** *Mutmuria*.

**25597.** *Mutmuria*. "Possibly different variety from the above (S. P. I. No. 25596)."

**25598.** *Mutmuria*. "Second variety, large grain."

**25599.** *Mutmuria*. "Third variety, small grain."

**25600.** *Joviva*.

**25601.** *Jarahur*.

**25602.** *Jarahan*.

**25603.** *Sahandeya*.

**25604.** *Joyia*.

**25605 to 25607. MEDICAGO SATIVA L.****Alfalfa.**

From Mitchell, S. Dak. Presented by Prof. W. A. Wheeler. Received June 7, 1909.

Seed of the following; descriptive notes by Mr. J. M. Westgate.

**25605.** *Grimm*. Grown from S. D. No. 162. This special lot proved the hardiest of the 2 lots of *Grimm* alfalfa under test.

**25606.** *Turkestan*. Grown from S. D. No. 164. In all the tests made at Brookings and Highmore, S. Dak., this has appeared to be almost if not quite perfectly hardy. The best of all the *Turkestan* alfalfas tested under South Dakota conditions.

**25607.** *Turkestan*. Grown under S. D. No. 240, originally from S. P. I. No. 991. Hardy but not a prolific seeder.

**25608. NAGEIA ELATA (R. Br.) Muell.**

From Sydney, New South Wales, Australia. Presented by Prof. J. H. Maiden, director, Botanic Gardens. Received June 7, 1909.

*Distribution*.—A large tree, native of southeastern Australia, occurring in Queensland and New South Wales.

**25609. CAESALPINIA SAPPAN L.**

From Sibpur, Calcutta, India. Presented by Prof. A. T. Gage, superintendent, Royal Botanic Garden. Received June 8, 1909.

"A shrubby leguminous tree bearing showy yellow flowers. Adapted to poor dry lands. 'From its quasi-deciduous character would doubtless endure pretty low temperatures' (*W. S. Lyon*). May prove hardy in the Southern States. The wood, known to commerce as sappan wood, yields a red dye; the bark is used for tanning in India and China. As an ornamental it makes a fine hedge." (*W. W. Stockberger*.)

*Distribution*.—A native of India and the Malay Archipelago.

**25610. IPOMOEA sp.**

From Belize, British Honduras. Presented by Mr. E. J. F. Campbell, superintendent, Botanical Station. Received June 9, 1909.

"Tubers of an indigenous plant. The tubers are eaten by the natives raw and saladlike. It is known by the name of *ecama*."



**25611 to 25618.**

From Chile. Received through Mr. José D. Husbands, Linares, Chile, June 8, 1909.

The following seeds; quoted descriptions by Mr. Husbands.

**25611. GEUINA AVELLANA Mol.**

"From the cordilleras of central Chile. Will not grow north of latitude 34."

*Distribution*.—An evergreen tree, native of the Andes of Chile; cultivated sparingly in California.

**25612. JUBAEA CHILENSIS (Mol.) Baill.**

"Palm of Chile, large tree with very large bunches of nuts."

*Distribution*.—The native palm of Chile, found in the provinces of Quillota and Maule.

**25613. PHRAGMITES VULGARIS (Lam.) B. S. P.**

"A tall, wide-leaved, reedlike wild grass, used for thatching houses. Eaten by horned cattle. Ornamental."

**25614 to 25617. PERSEA GRATISSIMA Gaertn. f.**

**Avocado.**

"Paltos, Chile classes, of excellent quality, somewhat smaller than those of Peru."

**25618. CUCUMIS MELO DUDAIM (L.) Naudin.**

"Fragrant melon; color yellow with red stripes; eatable; is about the size of an orange; plant like other melons but smaller. Crossed with other melons might give something new."

*Distribution*.—Found in Persia, Egypt, and Algeria, and cultivated in other countries.

**25619 and 25620. CITRUS spp.**

From Brisbane, Queensland, Australia. Presented by Mr. Ernest G. E. Scriven, undersecretary, Department of Agriculture and Stock. Received June 10, 1909.

**25619. CITRUS AUSTRALIS (Cunn.) Planch.**

*Distribution*.—A small tree, native of the southeastern part of Queensland, Australia.

**25620. CITRUS AUSTRALASICA Muell.**

See S. P. I. No. 21306 for previous introduction and description.

*Distribution*.—A shrub, native of the southeastern part of Queensland and the northeastern part of New South Wales, in Australia.

**25621. AVENA SATIVA L.**

**Oat.**

From Anasias, Turkey in Asia. Presented by H. Caramanian & Co. Received June 11, 1909.

*Soulou Ova.*

**25622 to 25630.**

The following material received at the Upper Mississippi Valley Plant Introduction Garden, Ames, Iowa. Numbered for convenience in recording distribution, June 11, 1909.

## 25622 to 25630—Continued.

25622. PYRUS sp.

Pear.

"(Iowa Expt. Sta. No. 464, 1906.) Seeds were secured from Mr. W. S. Ament, Peking, China. In his letter Mr. Ament states that the fruit came from a long distance, mostly from the mountain regions." (*S. A. Beach.*)

25623. PYRUS sp.

Pear.

"(Iowa Expt. Sta. No. 89, 1907.) Seed received from Mr. H. P. Perkins, Poatingfu, China. In his letter of January 14, 1907, Mr. Perkins says: 'I inclose seeds of the only pear that grows in this region. It is far from being an A-1 pear but it is large and keeps well into the spring.'" (*S. A. Beach.*)

25624. SORBUS sp.

Mountain ash.

"(Iowa Expt. Sta. No. 407, 1909.) Native to Alaska. Scions received from Prof. C. C. Georgeson, of the Alaska Agricultural Experiment Station, Sitka, Alaska." (*S. A. Beach.*)

25625. CYDONIA sp.

Quince.

"(Iowa Expt. Sta. No. 518, 1906.) Seed received from Mr. Paul D. Bergen, Shantung, China." (*S. A. Beach.*)

25626. MALUS sp.

Apple.

"(Iowa Expt. Sta. No. 519, 1906.) Seed received from Mr. Paul D. Bergen, Shantung, China." (*S. A. Beach.*)

25627. MALUS sp.

Apple.

"(Iowa Expt. Sta. No. 461, 1906.) Seed received from Mr. W. S. Ament, Peking, China. In his letter Mr. Ament states that the fruit came from a long distance, mostly from the mountain regions." (*S. A. Beach.*)

25628. MALUS sp.

Apple.

"(Iowa Expt. Sta. No. 432, 1906.) Seed received from Mr. H. P. Perkins, Poatingfu, China." (*S. A. Beach.*)

25629. MALUS SYLVESTRIS Mill.

Apple.

*Evaline.* "This variety originated in Wisconsin, not in northern Iowa, as erroneously stated by Hansen.<sup>a</sup> It was one of a lot of seedlings grown from seed brought to Fremont, Waupaca County, Wis., largely from Canada. It was introduced by Mr. William A. Springer, of that place. In 1877 Mr. Springer stated that 'it originated many years ago,'<sup>b</sup> and gave the following description of it: 'Original tree on high, level, dark loam soil. Tree quite upright, but spreading with age. Fruit quite large, with yellowish green color; quality excellent. Season, February to March.'

"It is distinct from the *Evelyn*, which originated with Mr. A. B. Lyman, Excelsior, Minn., from seed of the *Wealthy*, and which is a dark-red apple or yellow, striped with red. It is also distinct from a red apple which is being disseminated by Mr. A. D. Barnes, Waupaca, Wis., under the name of *Evelyn*.

"There is a tree of *Evaline* standing in an orchard which was planted on the grounds of the Iowa Agricultural College about 1877. Haas stock was planted and top-worked about 1878 with scions of the *Evaline*. This tree is hardy, healthy, and productive. The fruit is above medium to rather large, greenish or yellowish, often with a faint blush, with a good degree of uniformity in size and appearance; flavor subacid; texture and quality superior to that of

<sup>a</sup> "A Study of Northwestern Apples," Bulletin 76, South Dakota Agricultural Experiment Station, 1902, p. 49.

<sup>b</sup> Iowa Horticultural Society, Report, 1877, pp. 81-83.

## 25622 to 25630—Continued.

*Northwestern Greening*. It bears some resemblance to apples of the *Fall Pippin* type. As grown at Ames it keeps in ordinary storage till midwinter or later.

"Mr. W. T. Macoun, horticulturist of the Central Experimental Farm, Ottawa, Canada, to whom samples of the fruit were submitted, wrote November 13, 1908: 'I have tested and described the *Eraline* apple. I consider it to be better than *Northwestern Greening* in quality. As you say, it approaches very close to the *Fall Pippin*.' Col. G. B. Brackett, United States pomologist, from specimens which were sent him, describes the flesh as yellowish, medium fine, breaking, juicy, subacid, pleasant flavored, good to very good in quality.

"On account of the uniformity of the fruit in size, appearance, and quality, and because of the hardness of the variety in tree and fruit-bud, it appears worthy of more extended trial in central and northern Iowa as an early winter or midwinter apple for the home orchard. On the college grounds the variety has made a record for hardness and fruit-bud, having yielded pretty good crops during the seasons of 1907 and 1908 when many other varieties in the station seriously yielded little or no fruit because their blossom-buds or blossoms were killed by the late freezes." (S. A. Beach in the *Report of the Iowa Horticultural Society*, 1909.)

**25630. MALUS DIVERSIFOLIA (Bong.) Roem.**

**Crab apple.**

"(Iowa Expt. Sta. No. 406, 1909.) Crab apple, native to Alaska. Received from Prof. C. C. Georgeson, of the Alaska Experiment Station, Sitka, Alaska. In his letter of April 13, 1909, Professor Georgeson remarks: 'So far as I know there are no wild crab apples in the interior, the species *Pyrus rivularis* (*Malus diversifolia*) is confined in Alaska entirely to the coast region of southeastern Alaska.' " (S. A. Beach.)

**25631. SEMELE ANDROGYNA (L.) Kunth.**

From Funchal, Madeira. Presented by Mr. Alaricus Delmard, Monte Palace Hotel. Received June 12 and 14, 1909.

Francescillo Santa Barbara says that it looks like a gigantic smilax and has dark-green tropical foliage which is likely to be mistaken for some of the Indian climbing palms.

*Distribution*.—An evergreen, climbing vine, native of the Canary Islands, and cultivated as a greenhouse ornamental.

**25632 to 25637.**

From Eritrea, Africa. Presented by Prof. T. Batorate, director, Colonial Agricultural Experiment Station, Asmara. Received June 1, 1909.

The following seeds:

**25632. BARBEYA OLEOIDES Schweinf.**

*Distribution*.—A small tree, native of the middle and higher mountainous regions of the northern part of Abyssinia, and the province of Yemen, in Arabia.

**25633. CARISSA EDULIS Vahl.**

*Distribution*.—A tall shrub, found throughout tropical Africa, from Guinea and Nubia, south to Damara-land and the valley of the Zambezi; also in tropical Arabia.

**25634. DIOSPYROS SENEGALENSIS Perrott.**

**25632 to 25637—Continued.**

*Distribution.*—A shrub or tree, from 6 to 40 feet high, native of Guinea and Abyssinia and south to Mozambique, in Africa, and of Yemen, in Arabia. The wood, which is much used by the natives, is white and compact, or black in the center, like ebony.

**25635.** *MILLETTIA FERRUGINEA* (Hochst.) Baker.

*Distribution.*—A large tree, found in Abyssinia. The powdered seeds are thrown into the water to stupify fish, and the tree also furnishes a poison for arrowheads.

**25636 and 25637.** *HYPHAENE THEBAICA* (L.) Mart.

**25636.** From Assab.

**25637.** From Argodat.

*Distribution.*—A palm, native of the valley of the Gambia River in upper Guinea, and of Nubia, Abyssinia, Somaliland, and British East Africa in the Nile Valley; also native of extratropical Egypt and Arabia.

**25639 and 25640.**

From Perth, western Australia. Presented by Mr. P. L. Richardson, acting inspector-general of forests, Department of Woods and Forests. Received June 3, 1909.

Seed of the following:

**25639.** *XANTHORRHOEA PREISSII* Endl.

"This grass-tree, which forms a conspicuous feature of the Australian landscape, is among those strange members of the rush family that have a decided trunk, or caudex. This species often has a trunk attaining a height of 15 feet, surmounted by a dense, symmetrical crown of foliage, composed of a multitude of brittle, linear leaves which spread or curve gracefully in all directions. From the center of this tuft of leaves arises a solitary, scepter-like flower stalk, terminating in a dense cylindrical spike of numerous, closely packed greenish flowers. This picturesque desert plant is well worth trial in the warmer and more arid regions of the United States." (*Extract from Bailey's Cyclopaedia of American Horticulture.*)

*Distribution.*—A native of western Australia, found from St. Stirling Range to the Vasse and Swan rivers.

**25640.** *NUYTSIA FLORIBUNDA* (Labill.) R. Br.

A terrestrial tree belonging to the mistletoe family, often 35 feet in height, with spreading branches. The leaves are linear and thick, about 3 inches long, or reduced to small scales on the new shoots. The flowers are orange-yellow, in showy racemes, crowded at the ends of the branches. The fruit is a nut  $\frac{1}{2}$  inch long with 3 broad thick wings.

*Distribution.*—It is a native of western Australia, extending from King George's Sound to the Swan and Murchison rivers.

**25641. ELEOCHARIS TUBEROSA (Roxb.) Schultes.**

**"Water chestnut."**

From China. Procured by Mr. G. P. Rixford, of this Department, in San Francisco, Cal., from a Chinese importer. Received June 16, 1909.

"The corms or tuberous rhizomes of the above plant are a great favorite with the Chinese. They are mostly eaten raw, but are also sliced and shredded in soups and

**25641—Continued.**

in meat and fish dishes. Foreigners in China grate them and serve them boiled as a winter vegetable, in which state they resemble sweet corn very much in looks and taste.

"The plants need a hot summer to mature and are grown on a muck or clayey soil with several inches of standing water on top, very much in the same manner as wet-land rice." (*Frank N. Meyer.*)

*Distribution.*—A native of China, and extensively cultivated there for its tubers.

**25642 to 25645. VICIA FABA L.****Horse bean.**

From Malaga, Spain. Presented by Mr. Charles M. Caughy, American consul. Received June 17, 1909.

Seeds of the following:

**25642.** *Morada.*

**25644.** *Mazagana.*

**25643.** *Cochinera* (pig).

**25645.** *Tarragona.*

"These beans are soaked for 12 hours and planted in land which is thoroughly irrigated. No further attention is paid to them until the stalks are about 2 feet high. They all occupy about the same time in ripening and in parts of the district there are 3 plantings a year, viz, September, December, and March.

"It is impossible to say anything as to their ability to resist frost, as that is not experienced here.

"The stalks are fed to stock without any preparation whatsoever except to cut them in short lengths, and have such little value that they are given to those who are willing to take them away." (*Caughy.*)

**25646 to 25648.**

From Yachow, China. Procured by Mr. H. J. Openshaw. Received June 16, 1909.

The following seeds:

**25646 and 25647.** *PHASEOLUS VULGARIS L.*

**25646.** Mottled red.

**25647.** Black.

**25648.** *DOLICHOS LABLAB L.*

**Bonavist bean.**

*Black.*

**25649 to 25658. GLYCINE HISPIDA (Moench) Maxim.****Soy bean.**

From Newchwang, China. Presented by Mr. Fred. D. Fisher, American consul. Received June 18, 1909.

The following seeds. Quoted notes by Mr. Fisher: descriptions of varieties by Mr. C. V. Piper.

**25649 to 25651.** "*Pai-mei* (white eyebrow), from the white scar on the saddle or point of attachment to the pod." These three numbers consist wholly, or mostly, of *Ito San*.

**25649.** (Locality unknown.)

**25650.** From Mukden.

**25651.** From Kwangning.

**25652.** "*Chin-huang* (golden yellow), from the golden color and more rounded shape of the bean." Subglobose yellow seeds with brown hilum.

**25649 to 25658—Continued.**

**25653.** "*Hei-chi* (black belly), from the dark-brown scar on the saddle." Yellow subglobose seeds with black hilum.

**25654.** "*Ch'ing-tou*. Epidermis green with inside yellow." Yellowish green subglobose seeds. Apparently identical with the *Morse* variety, No. 19186.

**25655.** "*Ch'ing-tou*. Both epidermis and inside green." Subglobose green seeds with black hilum and green embryo. Apparently the *Guelph* variety.

**25656.** "*Wu-tou*." Small black seeds with yellow embryos. Apparently two varieties mixed.

**25657.** "*Hsiao-wu-tou* (small black bean); the bean is somewhat smaller than the following (S. P. I. No. 25658), with a black epidermis and yellow inside." Small black seeds with yellow embryos.

**25658.** "*Ta-wu-tou* (large black bean), where the epidermis is black and the inside green." Medium-sized, subglobose seeds, black with green embryos. Apparently identical with *Fairchild* variety, No. 19184.

**25659. MANGIFERA INDICA L.****Mango.**

From province of Baliwag, Philippine Islands. Presented by Mr. Donald MacIntyre, Moanalua Gardens, Honolulu, Hawaii. Received June 19, 1909.

*Caraboa*. "The fruit of this is a little smaller than the one from *Cavite* (S. P. I. No. 24927)." (*MacIntyre*.)

**25660. ZEA MAYS L.****Corn.**

From Alajuela, Costa Rica. Presented by Mr. Jerome B. Clark, care of Cox & Co., Hacienda "El Brazil." Received May 15, 1909.

White.

**25665. SECALE CEREALE L.****Rye.**

From the province of Ekaterinoslav, Russia. Presented by Mr. J. A. Rosen, American Agricultural Bureau of the Government Zemstvo of Ekaterinoslav, Russia, 428 Andrus Building, Minneapolis, Minn. Received March 23, 1909.

*Petkoff Winter*. "This rye is frequently sown in the early part of July, is cut for soiling purposes in September (may also be pastured, but this is not advisable), and produces a crop of grain the following season. If raised for the grain only, it is sown late in September; in this case it usually yields heavier." (*Rosen*.)

**25666 to 25683.**

From Abyssinia. Presented by Mr. Hubert S. Smiley, Drumalis, Larne, Antrim County, Ireland. Received June 14, 1909.

The following seeds:

**25666 to 25670.** TRITICUM sp. **Wheat.**

**25668.** "Grown on clay ground in any part of the country."

**25670.** "White, grown in the hot country."

**25671 and 25672.** HORDEUM sp. **Barley.**

**25671.** "Grown on high ground."

**25672.** "Black. Grown on red earth in the cold part of the country."



## 25666 to 25683—Continued.

- 25673 and 25674. *HORDEUM VULGARE* L. Barley.  
 25674. White.
- 25675 to 25677. *ANDROPOGON SORGHUM* (L.) Brot. Durra.  
 25675. "Common red-seeded durra of Abyssinia. Identical with No. 24897." (*Carleton R. Ball.*)  
 25676. "The common flinty-seeded durra of Abyssinia; seed yellowish, often tinged with brown; very similar to No. 24899. Seed poor and mixed." (*Carleton R. Ball.*)  
 25677. "Same as the above but seed of better quality. This variety has proved enormously heavy and late, as grown in the United States." (*Carleton R. Ball.*)
- 25678 and 25679. *VICIA FABA* L. Horse bean.  
 25678. Brown. 25679. Greenish brown.
25680. *PISUM ARVENSE* L. Field pea.  
 25681. *SESAMUM ORIENTALE* L. Sesame.  
 Brown.
25682. *BRASSICA* sp.
25683. *PHASEOLUS VULGARIS* L. Bean.  
 White.

## 25684 to 25686.

From Lawang, Java. Presented by Mr. M. Buysman. Received June 24, 1909.  
 The following seeds:

25684. *CANARIUM COMMUNE* L.  
 See No. 20808 for description.  
*Distribution.*—A native of the Malay Archipelago, and cultivated in India.
25685. *MUCUNA* sp. 25686. *MUCUNA* sp. (?)

25688 and 25689. *BELOU MARMELOS* (L.) W. F. Wight. Bael.

From Saharanpur, India. Presented by Mr. W. R. Mustoe, superintendent, Government Archaeological Gardens, Lahore, Punjab, India. Received June 28, 1909.

Seeds of the following:

25688. Oblong variety. 25689. Small variety.

For further description, see No. 24450.

25690 and 25691. *PITHECOLOBIUM DULCE* (Roxb.) Benth.

From Chinapas, Chihuahua, Mexico. Presented by Mr. Elmer Stearns, botanist, School of Agriculture, C. Juarez, Chihuahua, Mexico. Received June 24, 1909.

The following seeds:

25690. Fruit white. 25691. Fruit red or reddish.

See No. 23457 for description.

*Distribution.*—A native of Mexico, Nicaragua, and Colombia; cultivated in India and other tropical countries.

**25692. CARICA PAPAYA L.****Papaw.**

From Gonda, United Provinces, India. Presented by Rev. N. L. Rocky. Received June 28, 1909.

"Papita or papaya seed grown in latitude 27° 7' north, longitude 81° 51' east. Fruit was about 4 pounds each; tree 16 months old. This seed came from fruit grown in Gonda, the seed of which I obtained originally in Bangalore. I have had trees live and bear for 6 years and continue to freely grow. I see no reason why this luscious fruit should not grow and thrive all along the Gulf and in the islands." (Rocky.)

**25694. PITHECOLOBIUM DULCE (Roxb.) Benth.****Guamuchitl.**

From Guadalajara, Jalisco, Mexico. Purchased from Señor Hernandez, Street of the Giant 83½. Received June 28, 1909.

See No. 23457 for description, and Nos. 25690 and 25691 for distribution of this species.

**25699 to 25701.**

The following material received at the Upper Mississippi Valley Plant Introduction Garden, Ames, Iowa. Numbered for convenience in recording distribution, June 30, 1909.

**25699. CYDONIA sp.****Quince.**

"(Iowa Expt. Sta. No. 518, 1906.) Seed received from Mr. Paul D. Bergen, Shantung, China. In his letter of October 2, 1906, Mr. Bergen says: 'The quince is the regular Shantung species, very good for jelly.'" (S. A. Beach.)

**25700. MALUS sp.****Apple.**

"(Iowa Expt. Sta. No. 519, 1906.) Seed received from Mr. Paul D. Bergen, Shantung, China. In his letter of October 2, 1906, Mr. Bergen says: 'These apples are native to this district, and are a small, dark-red, sourish variety. Our climate here is milder considerably than that of Iowa. The country is here so completely cultivated that there is small place for wild fruits of any kind. The Chinese are considerably skilled also in the art of grafting, so that their fruits are very much modified from the ancestral stock.'" (S. A. Beach.)

**25701. MALUS sp.****Apple.**

"(Iowa Expt. Sta. No. 432, 1906.) Seed received from Mr. H. P. Perkins, Poatingfu, China, October 12, 1906. In his letter of September 5, 1906, Mr. Perkins says: 'These are seeds saved from our breakfast apples, which were of 2 or 3 varieties, none of them equal to our best United States summer apples, and I fear they will not answer your purpose, as the winters here are probably far less cold than are yours. This place is near Shanhaikuan, which is the place where the great wall reaches the sea. The fruit region is some 40 miles north (Changli). There are hills there, but I imagine the fruit is grown not very far up the hillsides. We are on a sea bay which usually does not freeze over in the winter. We call all this part of China North China, but nothing inside the great wall is really very far north.'" (S. A. Beach.)

**25702 and 25703. ORYZA SATIVA L.****Rice.**

From Saigon, Cochin China. Presented by Mr. Jacob E. Conner, American consul, at the request of consul-general Wilder, of Hongkong, China. Received June 28, 1909.

## 25702 and 25703—Continued.

Seed of each of the following:

25702. "The nearest we can come to identifying the rice described as *Sane-jin* is a rice known to the merchants locally as *Santsim*, the translation of which is 'long kernel.' This rice is said to come from Anam." (Wilder.)

"The *Baicou*, as it is known here, is sometimes called 'Siamese garden rice,' and it commands the highest price in the market. A Chinese rice specialist here told me that it is known also as *Sun tsim*, which Mr. Wilder says corresponds to the *Sunejin*. At any rate, it is a fine rice to introduce." (Conner.)

25703. "The nearest we can come to the variety *Patnat* is *Pat nor*, the translation of which is 'soft.' This rice is said to come from Tonkin." (Wilder.)

"This variety is called locally *Nep*, or 'alcohol rice,' is very dark colored, and is the one I suppose which corresponds to *Patnat* and Mr. Wilder called *Pat nor*." (Conner.)

## 25704 to 25716.

From Poona, Bombay, India. Presented by Mr. M. A. Peacock, Pennellville, N. Y. Received June 24, 1909.

The following seeds:

25704. *DOLICHOS BIFLORUS* L.

25705. *PHASEOLUS MAX* L.

Black.

25706. *PHASEOLUS RADIATUS* L.

Green and brown mixed.

25707. *PHASEOLUS ACONITIFOLIUS* Jacq.

Brown.

25708. *CYAMOPSIS TETRAGONOLOBA* (L.) Traub.

25709. *CAJAN INDICUM* Spreng.

Mauve.

25710. *LENS ESCULENTA* Moench.

Lentil.

25711. *PISUM ARVENSE* L.

Field pea.

Mottled green.

25712. *LATHYRUS SATIVUS* L.

25713. *CICER ARIETINUM* L.

Chick-pea.

25714. *VIGNA UNGUICULATA* (L.) Walp.

Cowpea.

Mixed brown and cream colored seed.

25715. *STIZOLOBIUM* sp.

Mottled gray and brown.

25716. *GLYCINE HISPIDA* (Moench) Maxim.

Soy bean.

Yellow.

25717. *SCHINOPSIS BALANSAE* Engl.

From Chaco, Argentina. Presented by Sr. Ing. D. Carlos D. Cirola, University of Agriculture, Santa Fe, Buenos Aires. Received June 19, 1909.

"A tree belonging to the family Anacardiaceae. Native in Paraguay, where, according to Engler, it grows on river banks in impervious clay soil. Said to occur also in eastern and southern Argentine. Known locally as *quebracho colorado*, and forms one of the sources of the quebracho extract used in tanning." (W. W. Stockberger.)

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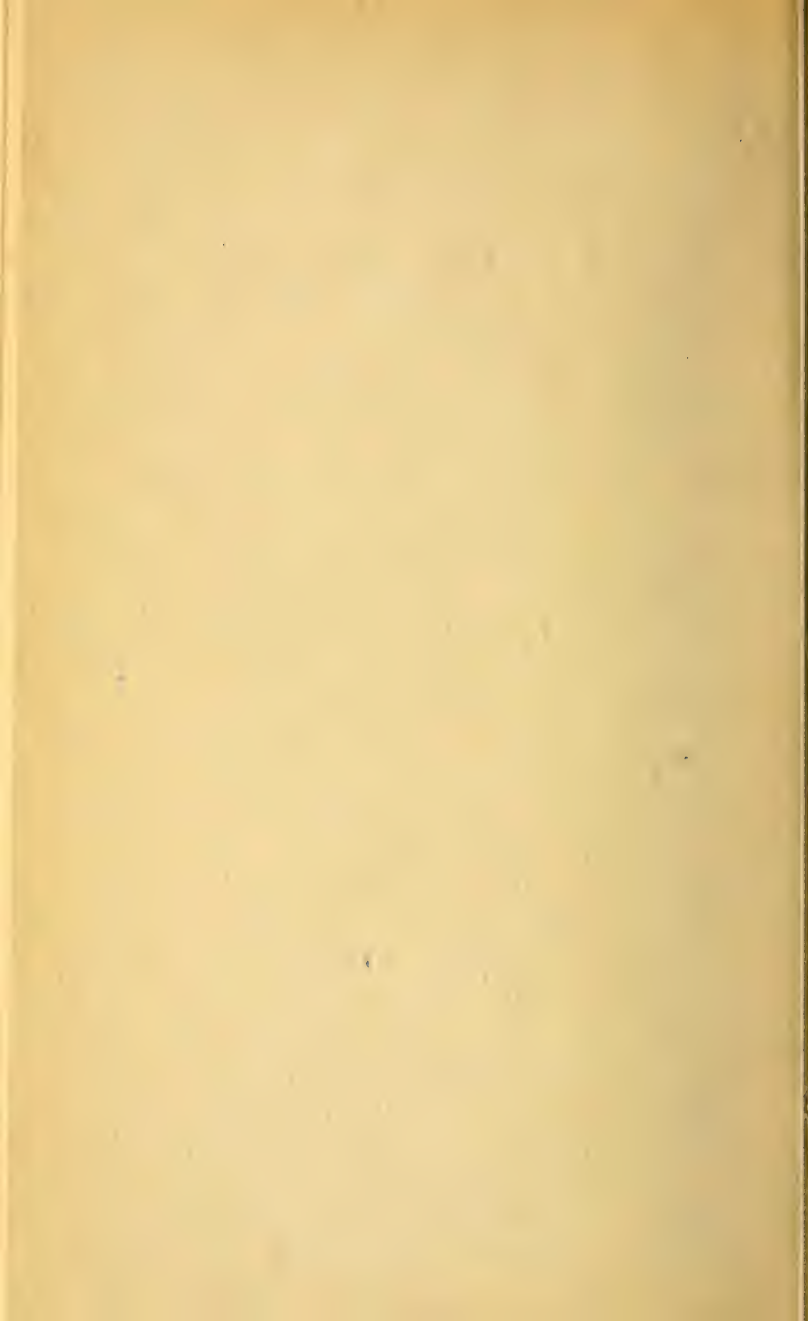
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164. Promising Root Crops for the South. [In press.]
165. Application of Principles of Heredity to Plant Breeding. [In press.]
166. The Mistletoe Pest in the Southwest. [In press.]
167. New Methods of Plant Breeding. [In press.]



Mr. H. H. H. H.  
U. S. DEPARTMENT OF AGRICULTURE.

BUREAU OF PLANT INDUSTRY—BULLETIN NO. 176.

B. T. GALLOWAY, *Chief of Bureau.*

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# SEEDS AND PLANTS IMPORTED

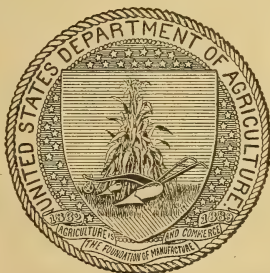
DURING THE PERIOD FROM JULY 1

TO SEPTEMBER 30, 1909:

INVENTORY No. 20; Nos. 25718 to 26047.

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ISSUED APRIL 23, 1910.



WASHINGTON:

GOVERNMENT PRINTING OFFICE.

1910.

## BULLETINS OF THE BUREAU OF PLANT INDUSTRY.

The scientific and technical publications of the Bureau of Plant Industry, which was organized July 1, 1901, are issued in a single series of bulletins, a list of which follows.

Attention is directed to the fact that the publications in this series are not for general distribution. The Superintendent of Documents, Government Printing Office, Washington, D. C., is authorized by law to sell them at cost, and to fill all applications for these bulletins should be made, accompanied by a postal money order for the required amount or by cash. Numbers omitted from this list can not be furnished.

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96. Tobacco Breeding. 1907. Price, 15 cents.
97. Seeds and Plants Imported. Inventory No. 31. 1907. Price, 15 cents.
98. Soy Bean Varieties. 1907. Price, 15 cents.

[Continued on page 3 of cover.]

U. S. DEPARTMENT OF AGRICULTURE.

BUREAU OF PLANT INDUSTRY—BULLETIN NO. 176.

B. T. GALLOWAY, *Chief of Bureau.*

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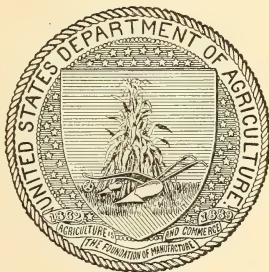
# SEEDS AND PLANTS IMPORTED

DURING THE PERIOD FROM JULY 1  
TO SEPTEMBER 30, 1909:

INVENTORY No. 20; Nos. 25718 to 26047.

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ISSUED APRIL 23, 1910.



WASHINGTON:  
GOVERNMENT PRINTING OFFICE.

1910.



## BUREAU OF PLANT INDUSTRY.

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*Chief of Bureau,* BEVERLY T. GALLOWAY.

*Assistant Chief of Bureau,* G. HAROLD POWELL.

*Editor,* J. E. ROCKWELL.

*Chief Clerk,* JAMES E. JONES.

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### FOREIGN SEED AND PLANT INTRODUCTION.

#### SCIENTIFIC STAFF.

David Fairchild, *Agricultural Explorer in Charge.*

F. H. Dodd, O. Albert Mann, George W. Conrad, Walter Van Fleet, and Peter Bisset, *Experts.*  
Frank N. Meyer, *Agricultural Explorer.*

H. V. Harlan, H. C. Skeels, and R. A. Young, *Assistants.*

Edward Goucher and P. J. Wester, *Assistant Propagators.*

## LETTER OF TRANSMITTAL.

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U. S. DEPARTMENT OF AGRICULTURE,  
BUREAU OF PLANT INDUSTRY;  
OFFICE OF THE CHIEF,  
*Washington, D. C., December 24, 1909.*

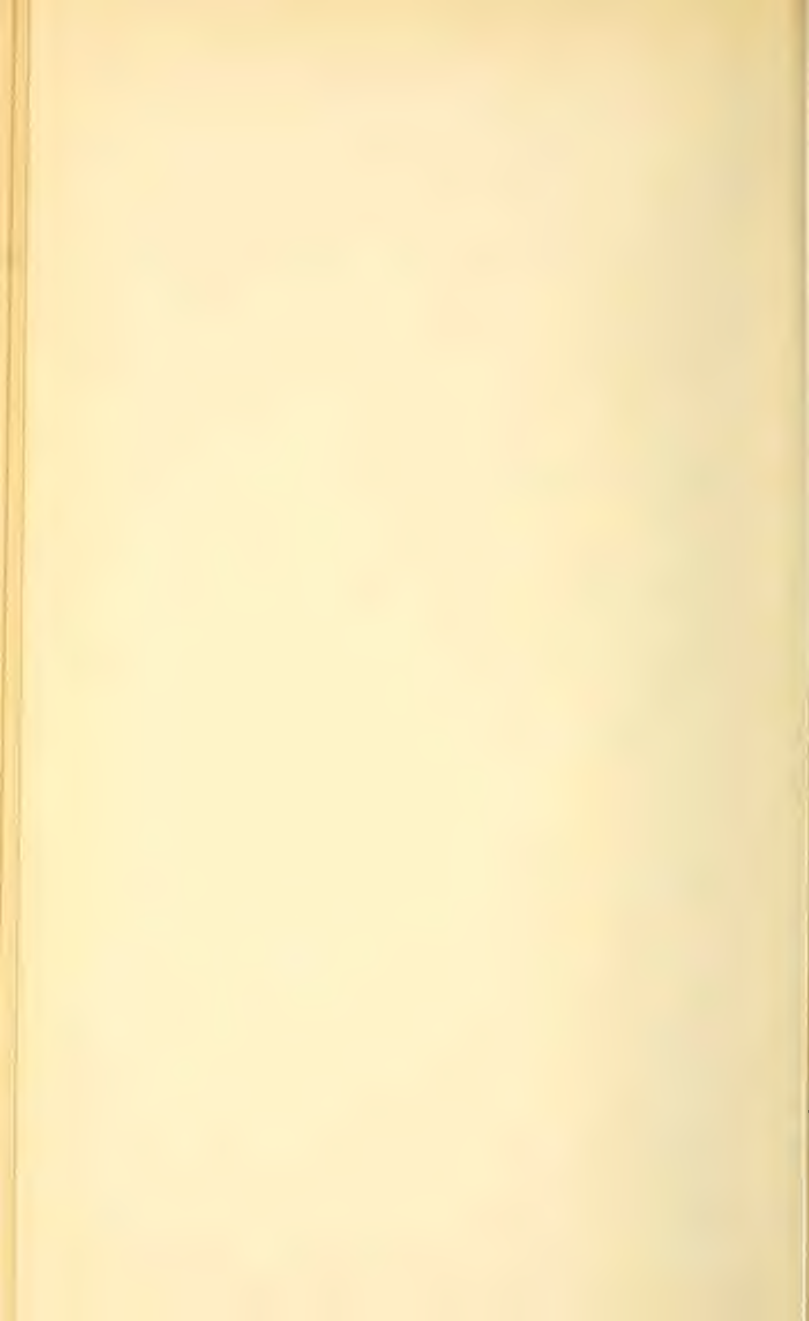
SIR: I have the honor to transmit herewith, and to recommend for publication as Bulletin No. 176 of the series of this Bureau, the accompanying manuscript, entitled "Seeds and Plants Imported during the Period from July 1 to September 30, 1909: Inventory No. 20; Nos. 25718 to 26047."

This manuscript has been submitted by the Agricultural Explorer in Charge of Foreign Seed and Plant Introduction with a view to publication.

Respectfully,

B. T. GALLOWAY,  
*Chief of Bureau.*

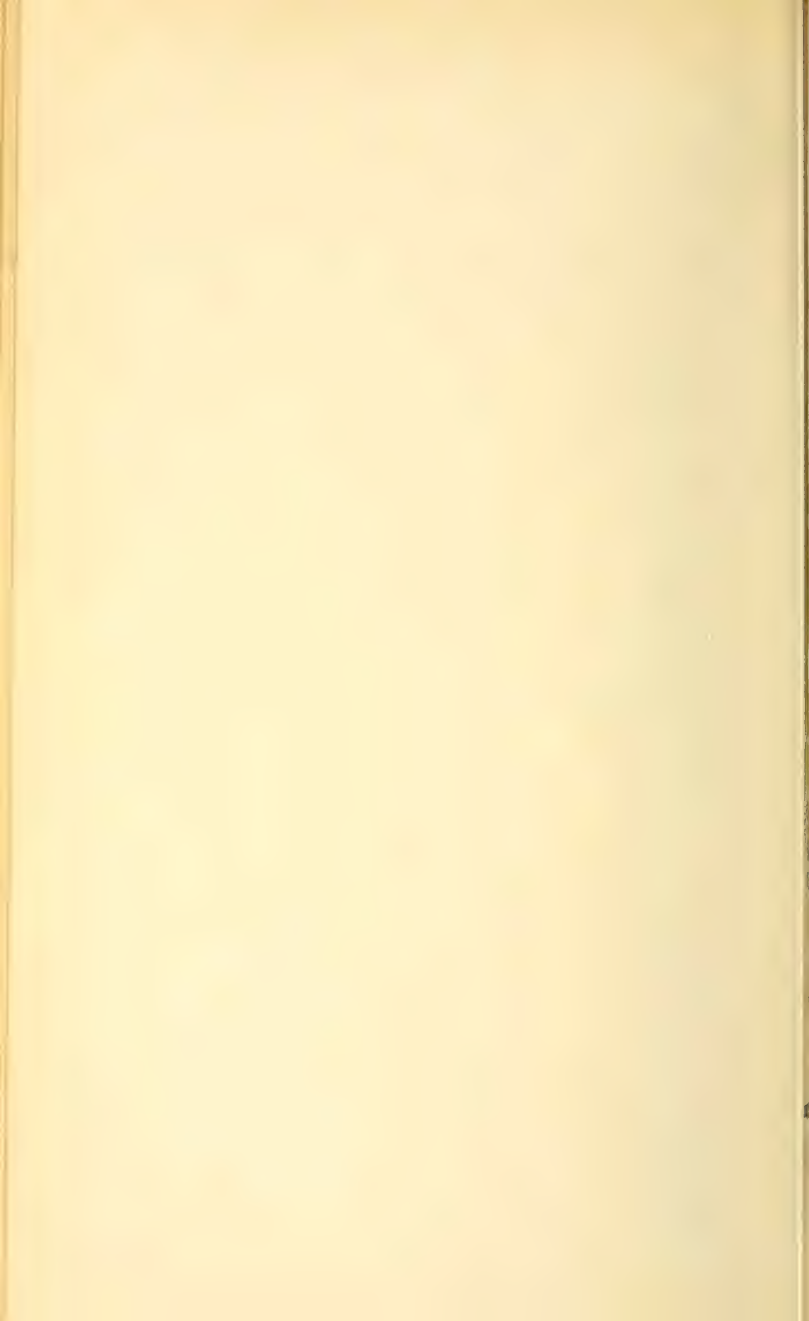
Hon. JAMES WILSON,  
*Secretary of Agriculture.*



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## SEEDS AND PLANTS IMPORTED DURING THE PERIOD FROM JULY 1 TO SEPTEMBER 30, 1909: INVENTORY NO. 20; NOS. 25718 TO 26047.

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### INTRODUCTORY STATEMENT.

This inventory, covering the first quarter of the fiscal year from July 1 to September 30, 1909, contains 329 introductions. The first quarter has always been light, so far as the number of introductions is concerned. This quarter's introductions have been unusually so, owing to the fact that no explorers were in the field and changes in the office force interfered with regular correspondence; further, to the fact that only those introductions deemed of special interest are being included, those considered of minor importance being recorded in the office files only.

Of unusual interest in this inventory might be mentioned the following introductions:

Numbers 25858 and 25859 cover the seeds of the rattan palms which supply the valuable material for the manufacture of cane-seated chairs, street-car seats, baskets, etc., and whose cultivation as a tropical crop seems to have been given very little attention. The ability of these climbing palms to thrive in dense jungles is believed to be worthy the attention of tropical planters in the Western Hemisphere.

An importation of seeds of the "Queensland nut," *Macadamia ternifolia* (No. 25845), calls attention to the possibilities of cultivating this plant in parts of California and southern Florida. Trees are now growing in southern California which have borne nuts for the past two seasons. The *Macadamia* is being cultivated in Queensland and New South Wales, and, according to our information, the nuts are very well liked in Sydney, where they retail for as much as a shilling a pound.

In order to aid in the experiments with the horse bean, *Vicia faba*, which are being carried on by the Office of Forage-Crop Investigations, a collection of this important winter legume, adapted to the mild winters of the Southwestern States, has been gathered together from India, Egypt, Holland, Hungary, China, Kashmir, and Spain, and it is hoped that more definite information can be secured regarding the adaptability of this crop to our southwestern country.

The "Monketaan" stock melon (No. 25934) comes to us recommended by Mr. Lounsbury and Mr. Thornton, of the Department of



Agriculture of Cape Colony, as a plant worthy of being given unusual attention. According to their statements, this melon, which is of the nature of a watermelon, is quite distinct from the well-known Tsama melon, which grows on the west side of the Kalihari desert. This is found on the east side of the desert and is remarkable for the high yield of melons to the acre. As many as 150 tons have been produced to the acre, 75 tons being not at all unusual.

The interest in new varieties of mangos has become general enough in Florida to warrant our calling particular attention to the "Pabutan" mango (No. 25940), introduced by Mr. William S. Lyon from the Philippines. Although not as large a fruit or as small seeded as some of the East Indian mangos, it fruits early and is enormously prolific (which some of the East Indian varieties are not). According to Mr. Lyon its sweetness and juiciness are unapproached by any other of the many Filipino mangos he has eaten. Its thick skin will probably make it a good shipper.

The oriental *Myrica nagi* has been introduced under No. 25908. This extremely interesting fruit plant, whose dark wine-colored fruits are exceedingly ornamental, has not been given the attention which it deserves. There seem to be a number of varieties of this fruit, and, although it is a slow-growing tree and late coming into bearing, it is deserving of a trial in California and northern Florida.

The great value of a variety of cherry which is hardier in fruit bud than other cherries is conceded by the horticulturists of the Northwestern States. Those who are breeding or experimenting with cherries will therefore be interested in the introduction of *Prunus tomentosa* (No. 25880), which has been especially recommended by Professor Macoun, of the Experimental Farm at Ottawa, Canada. Trees of this species have been placed in the Upper Mississippi Valley Plant Introduction Garden at Ames, Iowa, for further trial and propagation.

Of especial interest and problematic value is a collection of peach, apricot, and cherry seeds from the Himalayas (Nos. 25894 to 25896). The Indian bael fruit (Nos. 25879, 25889, 25890, and 25912) is one which may prove valuable for making sherbets and for the flavoring of soft drinks. A collection of varieties of tropical corn, representing some of the best work done by the Harvard Experiment Station in Cuba; a collection of oats from Algeria, Palestine, Sweden, and Turkey for the oat breeders; and a wild olive, *Olea foveolata* (No. 25846), from the East London district of Cape Colony, are also worthy of special mention.

DAVID FAIRCHILD,  
*Agricultural Explorer in Charge.*

OFFICE OF FOREIGN SEED AND PLANT INTRODUCTION;  
*Washington, D. C., December 24, 1909.*

# INVENTORY.

## 25718 to 25722.

From Cartago, Costa Rica. Presented by Mr. C. Wercklé. Received July 2, 1909.  
Seeds of the following; descriptive notes by Mr. Wercklé.

**25718.** ANACARDIUM OCCIDENTALE L.

**Cashew.**

"These seeds are from the best and largest varieties I could find; red, yellow, and tawn color, the latter are the best. They are from the large grove of Don Rafael Yglesias, in the Cazalar."

**25719.** CUCURBITA MOSCHATA Duch.

"*Pipian*. Most prolific pumpkin of the Pacific coast. Full; white fleshed."

**25720.** CARICA PAPAYA L.

**Papaw.**

"Good, very large variety."

**25721.** CARICA PELTATA Hook. & Arn.

"*Suara*. Fruit very small, globular, full (no cavity), sweet, and fragrant. For crossing. Eaten with the seeds as Granadilla. Ovary full, on account of formation of cellular tissue on the funiculus the funiculi of the center of the placenta are very long. Pulp soft, skin very thin."

*Distribution*.—A native of Central America, found on the coast of Nicaragua and Costa Rica.

**25722.** CARICA PAPAYA ♀ × peltata ♂

"Small, sweet, fragrant fruits, not full or solid as the *Suara*."

## 25723 and 25724.

From Baroda, India. Presented by Mr. B. F. Cavanagh, superintendent, State Gardens. Received July 3, 1909.

Seeds of the following:

**25723.** TERMINALIA BELLERICA (Gaertn.) Roxb.

See S. P. I. No. 25541 for description.

**25724.** PHYLLANTHUS EMBLICA L.

"A small deciduous tree of the family Euphorbiaceæ, found in China, Japan, India, and elsewhere. The unripe fruit, formerly official in medicine, is known commercially as emblic myrobalans and with the leaves and bark is used in tanning. The leaves have been found to contain 18 per cent tannin and the bark 12.6 per cent. Introduced for trial in the Southern States." (W. W. Stockberger.)

*Distribution*.—A large tree, native of tropical India, China, and the Malay Archipelago.

## 25725 to 25728.

From Baroda, India. Presented by Mr. B. F. Cavanagh, superintendent, State Gardens. Received July 6, 1909.

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**25725 to 25728—Continued.**

Seeds of the following:

**25725.** STIZOLOBIUM sp.

**25726 to 25728.** DOLICHOS LABLAB L.

**Bonavist bean.**

**25726.** Black.

**25728.** Small red.

**25727.** Large red.

**25729. PHASEOLUS LUNATUS L.**

From Antigua, Leeward Islands, West Indies. Presented by Mr. S. Jackson, curator, Government Botanic Station. Received July 3, 1909.

"Barbuda bean."

**25730 and 25731. AVENA spp.**

**Oat.**

From Jerusalem, Palestine. Presented by Mr. E. F. Beaumont. Received July 6, 1909.

Seeds of the following:

**25730.** AVENA STERILIS L.

**25731.** AVENA SATIVA L.

Grown from Jaffa seed.

**25732. STIZOLOBIUM sp.**

From Lawang, Java. Presented by Mr. M. Buysman. Received July 10, 1909. Black seeded.

**25733. MEDICAGO SATIVA L.**

**Alfalfa.**

From Bridgeport, Kans. Grown on the farm of Mr. Carl Wheeler. Numbered for convenience in recording distribution, July 12, 1909.

"A plant selected for leafiness and seed production from same field which produced S. P. L. No. 19508. Grown at the Department greenhouse under Agros. No. 20." (J. M. Westgate.)

**25736. ZEA MAYS L.**

**Corn.**

From Pretoria, Transvaal, South Africa. Presented by Prof. J. Burtt Davy, government agrostologist and botanist, Transvaal Department of Agriculture. Received July 16, 1909.

"Hickory King. A strain now being developed in South Africa." (Davy.)

**25738. SACCHARUM OFFICINARUM L.**

**Sugar cane.**

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Department of Agriculture. Received July 2, 1909.

"Arrows of one of our best varieties of sugar cane (G. Z. No. 247). Rather a large percentage of these seeds do not germinate." (Treub.)

**25740. PANICUM PALMAEFOLIUM Koen.**

From Pretoria, Transvaal, South Africa. Presented by Prof. J. Burtt Davy, government agrostologist and botanist, Transvaal Department of Agriculture. Received July 19, 1909.

"I do not consider this one of our best grasses, but it is a useful sort in shady places, in comparatively warm districts, and in forest glades." (Davy.)

*Distribution.*—A native of tropical Africa, and extending to the Cape.

**25742 to 25752.**

From Bavaria, Germany. Presented by G. & S. Heil, Tüchelhausen, near Würzburg, Bavaria, through Mr. Charles J. Brand. Received June, 1909.

Seeds of the following:

**25742 and 25743.** HORDEUM DISTICHON NUTANS Schubl. **Barley.**

**25742.** *Heil's Hanna No. 4.*

**25743.** *Heil's Hanna No. 2.*

**25744 and 25745.** HORDEUM DISTICHON L. **Barley.**

**25744.** *Original Franconian No. 1.*

**25745.** *Heil's Improved Franconian.*

**25746 and 25747.** HORDEUM DISTICHON NUTANS Schubl. **Barley**

**25746.** *Heil's Hanna No. 1.*

**25747.** *Heil's Hanna No. 3.*

**25748.** TRITICUM AESTIVUM L. **Wheat.**

*Rimpau's Red Schlanstetter Summer.*

**25749 and 25750.** AVENA SATIVA L. **Oat.**

**25749.** *Svalöfs Ligowo.*

**25750.** *Beseler No. 2.*

**25751.** TRIFOLIUM PRATENSE L. **Red clover.**

*German.*

**25752.** BETA VULGARIS L. **Sugar beet.**

*Remlingen.*

**25753. STIZOLOBIUM sp.**

From Calcutta, India. Procured by Mr. William H. Michael, American consul-general, who purchased the seed from Mr. S. P. Chatterjee, seedsman. Received July 23, 1909.

Mottled brown and black.

**25754. CITRULLUS VULGARIS Schrad. Watermelon.**

From Tamsui (Daitotei), Formosa, Japan. Presented by Mr. Carl F. Deichman, American consul. Received July 26, 1909.

"Seeds of a watermelon growing in the island of Formosa, which has a fairly good flavor and I believe with proper cultivation could be much improved in quality. The meat of the melon is a very pretty shade of yellow, from lemon to light-orange color, and the size averages about 12 inches in diameter. It would, no doubt, be quite acceptable in the larger restaurants of New York, where there is always a demand for something out of the ordinary. It is not rare here." (*Deichman.*)

**25755 to 25757. STIZOLOBIUM spp.**

From Reduit, Mauritius. Presented by Dr. P. Boname, director, Agricultural Station. Received July 26, 1909.

Seeds of the following:

**25755.** Black.

"This is the most extensively cultivated and seems to be the most vigorous." (*Boname.*)

**25756.** Greenish yellow.

**25757.** Yellowish, mottled with brown.

**25758 to 25774. ZEA MAYS L.****Corn.**

From Ecuador. Presented by Mr. H. R. Dietrich, American consul-general, Guayaquil, Ecuador. Received July 10, 1909.

Seeds of the following; descriptive notes by Mr. Dietrich.

- 25758.** "Maiz amarillo grueso de Chillo (thick, yellow Chillo maize). Grown near Quito, Ecuador, at an elevation of about 8,500 feet, in rich, black, loamy soil. Does well with moderate moisture and is considered to produce better than any other variety grown in Ecuador."
- 25759.** "Maiz blanco (white maize). Grown near Quito, Ecuador. Not quite as productive as some other varieties. It is claimed a good grade of meal may be made from it."
- 25760.** "Maiz morocho blanco (white 'twin' maize). Grown on the hacienda 'Montezerin,' parish of Guayllabamba, near Quito, Ecuador. Elevation, 7,500 feet; moderately warm climate; sandy loam soil, very moist on account of heavy rains. Produces fairly well."
- 25761.** "Maiz morocho grueso de Chillo, blanco (thick 'twin' Chillo maize, white). Grown near Quito, Ecuador. Large, white, and hard; grown at an elevation of 8,500 feet. Rich, black soil; moderate rainfall; produces well."
- 25762.** "Maiz morocho blanco is a type of the hard maize and is distinctive by the better quality of its chemical composition. It acquires greater proportions than other kinds and is as productive as the best varieties grown in Ecuador, but is somewhat slow in its growth and more dependent upon the conditions of the soil than other varieties. From this, it is claimed, comes the variety belonging to the hotter climates. This variety is grown in a different locality in Ecuador than numbers 25760, 25761, and 25763."
- 25763.** "Maiz morocho amarillo is a type of the hard maize and is distinctive by the better quality of its chemical composition. It acquires greater proportions than other kinds and is as productive as the best varieties grown in Ecuador, but is somewhat slow in its growth and more dependent upon the conditions of the soil than other varieties. From this, it is claimed, comes the variety belonging to the hotter climates. This variety is grown in a different locality in Ecuador than numbers 25760 to 25762."
- 25764.** "Maiz amarillo (yellow maize). Grown at Tumbaco, east of Quito, Ecuador, at an elevation of 8,000 feet. Soil, sandy loam; average rainfall; produces well."
- 25765.** "Maiz amarillo (yellow maize). Grown on the hacienda Tina, parish of Conocoto, near Quito, Ecuador, at an elevation of 9,000 feet, in black soil. Does well with moderate rainfall."
- 25766.** "Maiz delgado amarillo (thin, yellow maize). From parish of Quinche, near Quito, Ecuador. Grows in mixed or black sandy soil at an elevation of about 8,000 feet when abundant rain falls."
- 25767.** "Maiz delgado pintado (thin, painted maize). From parish Pomasqui, near Quito, Ecuador. Elevation 8,000 feet; sandy soil; average rainfall; produces well."
- 25768.** "Maiz del indio (the Indian's maize). Grown on the table-lands in the interior of Ecuador."
- 25769.** "Maiz Cangil. Grown on the table-lands in the interior of Ecuador."
- 25770.** "Maiz amarillo de Chillo (yellow Chillo maize). Grown on the table-lands in the interior of Ecuador."



**25758 to 25774—Continued.**

**25771.** "Maiz negro (black maize). Grown on the table-lands in the interior of Ecuador."

**25772.** "Maiz amarillo comun (common yellow maize). Grown on the table-lands in the interior of Ecuador."

**25773.** "Maiz Chulpi. Grown on the table-lands in the interior of Ecuador."

**25774.** "Mixed corn grown on the low land near Guayaquil. Used for all purposes for which corn may be used."

**25775. JATROPHA sp.**

From Vera Cruz, Mexico. Presented by Mr. William W. Canada, American consul. Received July 23, 1909.

"This seed came from a tree that grows wild in the lowlands of this district, is very abundant, and apparently also very rich in oil. The local name is *Duraznillo*, and its commercial value, if any, is unknown here." (*Canada*.)

**25776. LAWSONIA INERMIS L.**

From Ancon, Canal Zone, Panama. Presented by Mr. H. F. Schultz, horticulturist. Received July 23, 1909.

"This plant has proved very valuable here as an ornamental and flowering shrub. The individually small and rather insignificant yellow flowers form a compact, and yet graceful, panicle and are produced in great masses between the small fine foliage. The plant often produces flowers the first year and abundantly after that. The fragrance is very strong, somewhat resembling that of *Cestrum nocturnum*, and, like the latter, is exhaled even more strongly in the evenings, from which characteristic it has obtained its local name *Dama del noche*.

"Although I do not know whether this plant has ever been used for the manufacture of perfume I should think that it would be suitable for that purpose in frost-free regions of the United States." (*Schultz*.)

"Known as henna, is a shrub long cultivated in the Orient, especially in Egypt and Arabia, where it is used for a variety of purposes. The flowers serve as a perfumery material by virtue of a volatile oil which they contain, having an odor said to closely resemble that of the tea rose. Besides their use in applications to wounds, sores, etc., the leaves are used in some regions to color the finger nails red. The root is astringent." (*R. H. True*.)

*Distribution*.—Probably a native of the northern part of Africa and western Asia; generally cultivated throughout the warmer parts of Asia and Africa.

**25777. ZIZYPHUS JUJUBA (L.) Lam.**

From Paris, France. Purchased from Vilmorin-Andrieux & Co. Received July 27, 1909.

Procured as a stock for *Zizyphus sativa*, Chinese date. See S. P. I. Nos. 23439 to 23446 for description.

**25778 to 25781. GLYCINE HISPIDA (Moench) Maxim. Soy bean.**

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Department of Agriculture. Received July 19, 1909.

Seeds of the following:

**25778.** Black.

**25780.** Yellow.

**25779.** Yellow.

**25781.** Brown.



**25782 and 25783. ALBIZZIA spp.**

From Buitenzorg, Java. Presented by Dr. M. Treub, director, Department of Agriculture. Received July 24, 1909.

Seeds of the following:

**25782. ALBIZZIA STIPULATA Boiv.**

A large, deciduous, fast-growing tree, whose wood is used for manufacturing cart wheels, wooden bells, cabinetwork, and furniture, as well as for fuel; the branches are used for fodder, and the trunk yields a gum, which is used for sizing paper. It is a native of India and the Malay Archipelago, and widely distributed in tropical and subtropical Asia.

**25783. ALBIZZIA MOLUCCANA Miq.**

A tree with large compound leaves, and bearing flowers in small globular heads. The stamens are long and form an ornamental ball around the head of the flowers. The pods are long and strap-shaped. It is a native of the Molucca Islands.

**25784. AVENA STERILIS L.****Oat.**

From Mustapha-Alger, Algeria. Presented by Dr. L. Trabut, Government Botanic Gardens. Received July 26, 1909.

"Variety *sub-sativa*. A cultivated oat developed by utilizing the spontaneous mutations of *Avena sterilis*." (Trabut.)

**25785 to 25788.**

From Amani, Haften Tanga, German East Africa. Presented by Dr. A. Zimmermann, Royal Agricultural Institute. Received July 24, 1909.

Seeds of the following:

**25785 to 25787. VIGNA UNGUICULATA (L.) Walp.****Cowpea.**

**25785.** Reddish brown.

**25786.** Brown, speckled with black.

**25787.** Mottled brown.

**25788. PENNISETUM AMERICANUM (L.) Schum.****Pearl millet.****25797 and 25798.**

From Buenos Aires, Argentina. Presented by Dr. Carlos Thays, director, Botanical Garden. Received July 19, 1909.

Seeds of the following:

**25797. ASPIDOSPERMA QUEBRACHO-BLANCO Schlecht. Quebracho-blanco.**

"An evergreen tree of the family Apocynaceæ, native of Argentina. The leaves are said to contain 27 per cent tannin. The bark, variously estimated as containing from 2 to 11 per cent tannin, has been used in leather making. The bark contains also 6 alkaloids, one of which, aspidiospermine, is regarded as of most importance as a drug." (W. W. Stockberger.)

*Distribution*.—A large tree, native of the valley of La Plata River in Argentina.

**25798. SCHINUS HUIGAN Molina.**

"This tree, of the family Anacardiaceæ, is a native of South America, and is closely related to the 'pepper tree' cultivated in California. It has been said to yield 19 to 20 per cent tannin, and according to Siewert the leaves are used in South America as a tanning material." (W. W. Stockberger.)

*Distribution*.—A native of South America, being found in Brazil, Argentina, Uruguay, Chile, and Peru.

**25799 to 25802.**

From Saigon, Cochin China. Presented by Mr. Jacob E. Conner, American consul. Received July 30, 1909.

Seeds of the following:

**25799.** *CANANGA ODORATA* (Lam.) Hook. f. & Thom.

**Ilang ilang.**

See S. P. I. No. 22744 for description.

*Distribution.*—A native of Java and the Philippine Islands, and cultivated in India and other tropical countries.

**25800.** *CRINUM ASIATICUM* L.

"I consider this one of the most ornamental plants I know for a lawn or a large jardinière." (Conner.)

*Distribution.*—Native and cultivated throughout tropical India and Ceylon.

**25801.** *DIPTEROCARPUS DYERI* Pierre.

"*Dau song nang.*"

*Distribution.*—A large tree of the valley of the Donnai River, in the region around Saigon, Cochin China.

**25802.** *DIPTEROCARPUS PUNCTULATUS* Pierre.

"*Dau do.*"

*Distribution.*—Same as No. 25801.

**25803. CAESALPINIA NUGA (L.) Ait.**

From Luzon, Philippine Islands. Presented by Mr. William S. Lyon, Manila, P. I. Received July 30, 1909.

"A very attractive and sweet-scented, flowered, scandent shrub." (Lyon.) See S. P. I. No. 20944 for previous introduction and description.

*Distribution.*—A native of the southern part of Asia, and extending through the Malay Archipelago and Polynesian Islands to Australia.

**25804 to 25807. MEDICAGO SATIVA L.**

**Alfalfa.**

From Mitchell, S. Dak. Presented by Prof. W. A. Wheeler, through Mr. Charles J. Brand. Received July 31, 1909.

Seeds of the following:

**25804.** "(South Dakota No. 162.) *Grimm* alfalfa, crop of 1908. Originally grown at Kilsheim, near Tauberbischofsheim, Baden, Germany. (See S. P. I. No. 24767.) Brought to Carver County, Minn., in 1857, and grown there since 1858. Present sample grown at Mitchell, S. Dak., in 1908, from seed secured in Carver County, Minn., in 1904, and grown at Highmore, S. Dak., 1905 to 1906. Highmore seed taken to Mitchell, S. Dak., in 1907, where it has since been grown. The 1907 crop of this same strain, grown at Mitchell, S. Dak., is under experiment under P. L. H. Nos. 3329 and 3331." (Brand.)

**25805.** "(South Dakota No. 164.) Acclimatized *Turkestan* alfalfa, crop of 1908. Originally imported from Tashkent, Turkestan, in 1898, under S. P. I. No. 991. Grown at Brookings, S. Dak., from 1898 to 1904. Brookings seed taken to Highmore, S. Dak., and grown there from 1905 to 1906. Highmore seed taken to Mitchell, S. Dak., and grown there since 1907. The 1907 crop of this number is under experiment under P. L. H. No. 3330." (Brand.)

**25804 to 25807—Continued.**

**25806.** "(South Dakota No. 167.) Of unknown origin. Purchased from a seed dealer at Hartford, S. Dak., in 1894, and grown near Baltic, S. Dak., from 1894 to 1904. Baltic seed grown at Highmore, S. Dak., from 1904 to 1906. Highmore seed grown at Mitchell, S. Dak., from 1907 to the present time. Seed of the 1906 crop is under experiment under S. P. I. No. 19969 and P. L. H. No. 3251. The 1907 seed is under experiment under S. P. I. No. 22946 and P. L. H. No. 3332. The present sample and S. P. I. No. 25537 are of the 1908 crop. (The so-called *Baltic alfalfa*.)" (*Brand*.)

**25807.** "(South Dakota No. 240.) Acclimatized *Turkestan alfalfa*, crop of 1908. This sample was grown from the same parent seed as No. 25805, South Dakota No. 164. This strain of *Turkestan* presents one of the most striking examples of acclimatization yet encountered. Seed of the original importation, S. P. I. No. 991, was grown at Highmore, S. Dak., from 1899 until 1906. Highmore seed was taken to Mitchell, S. Dak., in 1901, where it has since been grown. The present sample and S. P. I. No. 25607 are of the 1908 seed crop, grown at Mitchell. The 1906 seed crop, grown at Highmore, is under experiment under P. L. H. No. 3252." (*Brand*.)

**25816. TACCA PINNATIFIDA Forst.**

From Quilimane, Zambesia, Portuguese East Africa. Presented by Mr. O. W. Barrett, Director of Agriculture, Lourenço Marquez, Mozambique, Portuguese East Africa. Received July 31, 1909.

"Semicultivated plant having 3 to 5 *Amorphophallus*-like leaves from a cluster of smooth, thin-skinned, roundish corms and a corymbose cluster of greenish flowers on the summit of a naked, yellowish, erect stipe [some 3 to 4 feet high, about twice height of leaves]. Corms edible. The natives use it in a variety of ways—like potatoes and dry it in the form of a coarse flour. Habitat, gardens (and vicinity) of natives in Zambesia district. Native name, *I'lide*." (*Barrett*.)

*Distribution.*—Widely distributed in Africa, India, Australia, and the Pacific islands.

**25817. BAROSMA CRENULATA (L.) Hook.****Buchu.**

From Cape Town, South Africa. Presented by Mr. Charles P. Lounsbury, government entomologist, Department of Agriculture. Received August 2, 1909.

"*Buchu* succeeds best if sown in time and treated in the same way as nursery transplants. It naturally grows in amongst large rocks, so that the roots go into the ground at the side of the rocks or large stones; this keeps the roots cool, and the ground holds moisture longer. *Buchu* stands here at 1,500 to 4,000 feet elevation." (*Lounsbury*.)

"This is a shrub about 3 feet high bearing short-petioled, opposite leaves, which vary in form from narrowly oval to lanceolate, with crenate margins and with the surface marked by pellucid oil glands. The leaves form a drug, official in many lands, in America under the name of *bucha leaves*, valued for their diaphoretic, diuretic, and tonic properties. They contain from 1 to 2 per cent of a volatile oil. The plant occurs uncultivated in the vicinity of Cape Town, South Africa." (*R. H. True*.)

**25822 to 25831.****Gourd.**

From Nice, France. Presented by Hon. Dulany Hunter, consul-general. Received August 3, 1909.

Seeds of the following:

**25822 to 25824. LAGENARIA VULGARIS Ser.**

**25822.** Ornamental, spiral shaped, climbing.

**25823.** Ornamental, bottle shaped, climbing.

**25824.** Bottle shaped.

**25822 to 25831—Continued.****25825.** *LUFFA CYLINDRICA* (L.) Roemer.

Ornamental, sponge, climbing.

**25826 to 25830.** *LAGENARIA VULGARIS* Ser.**25826.** Ornamental, stick shaped, grim.**25827.** Ornamental, pointed end, climbing.**25828.** Ornamental, siphon shaped, climbing.**25829.** Ornamental, climbing. From Corsica, Bachouela.**25830.** Ornamental.**25831.** *CUCURBITA PEPO* L.

"The 'Festival des Gougourdots' is held here in the spring, and these seeds are from gourds which are exhibited there. The nurseryman states that the seeds should be planted in a flowerpot and not transferred until the plant is about to throw out a few leaves; that the soil should be well manured, but not too abundantly, as in that case the gourd does not become sufficiently dry to be used for holding liquids. When the plants are large enough they are tied to trellis work so they can be exposed to the sun. They need comparatively little water, and the fruit should be protected from heavy dews by being kept covered at night. The seeds are planted in the spring, and the fruit, which dries on the plant, is ready to be gathered by the end of September or early in October. The peasants at Cimiez produce pipes and other articles of odd shapes by wrapping parts of the gourd before it has ripened with soft pieces of cloth, and are thus enabled to bend them into the form they wish to produce. In this way the covered parts do not develop freely, and, remaining soft, can be bent into the desired shape." (*Hunter*.)

**25841 to 25844. ALLIUM CEPA** L.**Onion.**

From Teneriffe, Canary Islands. Presented by Mr. Solomon Berliner, American consul. Received August 5, 1909.

Seeds of the following:

**25841.** *Bermuda Red.***25843.** *Bermuda White.***25842.** *Wildpret's Golden.***25844.** *Crystal-Wax.***25845. MACADAMIA TERNIFOLIA** F. Muell.

From Wellington Point, Queensland, Australia. Presented by Mr. J. Pink. Received August 2, 1909.

For description, see S. P. I. No. 18382.

*Distribution.*—A small tree, native of the eastern part of Australia, being found in the valleys of the rivers in the southeastern part of Queensland, and in New South Wales.

**25846. OLEA FOVEOLATA** E. Meyer.

From East London district, Cape Colony, South Africa. Presented by Mr. Charles P. Lounsbury, government entomologist, Department of Agriculture, who procured the seeds from Mr. Henry G. Flanagan, F. L. S., of "Prospect," Komgha district, for whom they were collected by a Mr. Oliver. Received August 9, 1909.

"The district where these seeds were collected has a warm, temperate climate with about 30 inches of rainfall, chiefly in the summer months." (*Lounsbury*.)

*Distribution.*—A tall shrub, native of the woods of the southern part of Africa.

**25847. PROTEA GRANDIFLORA Thunb.**

From Grahamstown, Cape Colony, South Africa. Presented by Mr. J. Medley Wood, director, Botanic Gardens. Received July 31, 1909.

A shrub or small tree, 3 to 10 feet high, with oblong, sessile, shining leaves, and large, white flower heads, which resemble a globe artichoke in appearance.

**25848. SCHLEICHERA TRIJUGA Willd.****Kussum.**

From Dhamtari, Raipur, India. Presented by A. E. Lowrie, esq., Deputy Conservator of Forests. Received August 12, 1909.

"This seed ought to be sown in fairly rich sandy loam, in boxes, to begin with. When the young plants are about 9 inches high they should be planted out in a well-drained sandy soil." (*Lourie.*)

"This Indian tree, known as the lac tree or Ceylon oak, is one of the sources of shellac. The wingless female of the lac insect (*Tachardia lacca* Kerr) with its piercing mouth parts punctures the bark of the young, tender twigs, from which the shellac flows down the stems and hardens. The seeds yield a fatty oil, the so-called 'Macassar' oil, which contains free hydrocyanic acid, as well as the glycerides of oleic, palmitic, and arachidic acids. The wood, which is much used, is hard and durable and takes a polish. The sapwood is white, the heartwood is reddish brown." (*R. H. True.*)

*Distribution.*—A large tree, native throughout central and southern India, and extending through the Malay Archipelago to the Philippines.

**25849 to 25856. AVENA SATIVA L.****Oat.**

From Madrid, Spain. Presented by Mr. A. Ramirez, El Hogar Español. Received August 13, 1909.

Seeds of the following:

- 25849. Open, white, panicle.
- 25850. Large, white.
- 25851. Common.
- 25852. Large, white, panicle.
- 25853. Black, open, panicle.
- 25854. Black.
- 25855. Black oat with pendent panicle.
- 25856. Yellow.

**25857. VIGNA UNGUICULATA (L.) Walp.****Cowpea.**

From Venice, Italy. Presented by Dr. Angelo Sullam, of Portotolle, Taglia di Po, Italy, through Mr. Haven Metcalf. Received August 14, 1909.

*Black-Eye.*

**25858 to 25860.**

From the Philippine Islands. Presented by Mr. William S. Lyon, Manila. Received August 16, 1909.

Plants of the following:

- 25858 and 25859. *CALAMUS* sp.
- 25858. From Batanes Islands.
- 25859. From Palawan Island.

"*Palasan*".

"All the good rattans I know are strictly equatorial and not to be thought of in any of our occidental possessions other than the Canal Zone. I have crossed



**25858 to 25860—Continued.****25858 and 25859—Continued.**

the Isthmus twice. The yellow clay still impresses my memory with its stickiness and with its similarity to the yellow clays of Mount Canlaon (Negros), where I think perhaps I have seen the most riotous growth of *Palasan*—our best rattan. As I remember it, the rainfall on the Isthmus is probably about 2,400 to 2,500 mm. (94 to 98 inches). If it is less than 2,000 mm. (about 79 inches), I think rattans would not do much, although at Perak the precipitation is less and they raise some good, long-jointed canes.

"For environment the rattans want jungle and plenty of it. My remembrance of the zone is that the hills were unbroken jungle. Calamus must have a thick mass of medium-sized vegetation to scramble over.

"There is a single feature of Calamus culture which differentiates it positively from every other sylvan product with which I am acquainted. It is (if there be any such thing) an exception to the law of selection. All are fit to survive under conditions where all other species except those fortuitously well placed would succumb. No amount of crowding or shading seems to choke off a young rattan. Its progress is tedious under adverse conditions, but it struggles up till it gets light and then nothing but the bolo or cutlass can hold it back. In planting practice, this gives it a supreme advantage over most plants. Further, it eliminates the bugbear and expense of jungle clearing, a matter which is to be heavily reckoned. I am not prepared to give a thesis on rattan culture, but close observation of its behavior in our smooth bamboo (cana boho), which makes a thicket impervious to any animal except a wild pig and which is voracious enough to choke out every other kind of vegetable life except Calamus, inspires me with exceptional credulity to believe it can be grown more nearly as a purely spontaneous crop than any economic product known, not excepting common timber trees.

"I am not advocating complete neglect; removal of a fallen limb or a rank herbaceous weed, or an occasional slash with a bolo, would probably accelerate growth, but it is not an essential factor to success. The best commercial rattans, both Calamus and Damonorpas, are spiny as hedgehogs and immune from the raids of even deer. Best of all, they are renascent from the butt, and the same land and same planting may be cut over in six or seven years for a second time. There are two very serious drawbacks to a very general adoption of rattan planting for profit. One, their shy fruiting habits and consequent scarcity of seed; the other, slow development.

"The fruits are eaten by birds, and seeds can only be obtained where they are concealed from the birds. All the species, I fancy, are, as seeds, of fugitive vitality. This is not only my own limited experience, but is evidently that of European seedsmen—those who are specialists in palm seeds, and who rarely offer them for sale. As most of the species until they reach the sprawling age are remarkably ornamental, far more so than most palms, I can only explain their absence from catalogues of tropical ornamentals upon these grounds.

"I can give you no idea of the time required to yield a crop. I only know that the crop is slow, very slow. The renewal crop is rapid. I have seen canes on cut-over lands which had been stripped four years before. I think in five or six years at most, and on poor lands, a second crop can be depended upon. A seedling crop, perhaps, in 10 years." (*Lyon.*)

**25860. LIVISTONA WHITFORDII BECCARI.**

"This is far more compact, bushy, and ornamental than *Livistona rotundifolia*." (*Lyon.*)

*Distribution.*—A native of the province of Tayabas in the island of Luzon.



**25861. MANGIFERA INDICA L.****Mango.**

From Trinidad, British West Indies. Presented by Mr. F. Evans, acting superintendent, Botanic Gardens. Received August 18, 1909.

Seeds.

*Julie.* See S. P. I. No. 21515 for previous introduction and description.

**25862. CITRUS NOBILIS Lour.**

From Saigon, Cochin China. Presented by Mr. Jacob E. Conner, American consul. Received August 14, 1909.

Seeds.

"A very fine, flat, green-skinned mandarin orange, a little larger than the ordinary ones of this type. The flesh is quite reddish in color, and the flavor is a combination of that of the ordinary flat and the round loose-skin oranges." (*Conner.*)

**25863 to 25866.**

From Nairobi, British East Africa. Presented by Mr. and Mrs. C. E. Akeley, Chicago, Ill., through Mr. Charles J. Brand. Received August 17, 1909.

Seeds of the following economic plants, grown by the Wakamba tribe of natives:

**25863. PENNISETUM AMERICANUM (L.) Schum. Pearl millet.**

Cat-tail millet, called by the Wakamba tribe *Muce*.

**25864. ELEusine CORACANA (L.) Gaertn. Ragi millet.**

*Wimbi*.

**25865. CAJAN INDICUM Spreng.**

A species of bean. Mr. Akeley states that this is a bean of rapid growth which the natives use for wood.

**25866. ZEA MAYS L. Corn.**

A variety of Indian corn grown by the Wakamba tribe.

**25867. CITRULLUS VULGARIS Schrad.****Watermelon.**

From Merw, Russian Turkestan. Presented by Capt. M. L. Cummins, Sixteenth Infantry, U. S. Army, Fort Crook, Nebr. Received August 13, 1909.

"The melon is orange colored and not reddish inside, and in my opinion was the best I have ever eaten. The seeds came from a melon I had in Merw in the south-central part of Turkestan." (*Cummins.*)

**25868 to 25869.**

From Lourenço Marquez, Portuguese East Africa. Presented by Mr. O. W. Barrett, Director of Agriculture. Received August 14, 1909.

**25868. (Undetermined.)**

"(No. 29, June 28, 1909.) From Nhamacurra, Quilimane, Portuguese East Africa. Native name (Chizena) 'Mucupile.' A forest plant growing in sandy soil. Rhizome (attaining a weight of several pounds), irregular in shape; starch content moderate. Height 2 to 4 feet." (*Barrett.*)

**25869. GLADIOLUS sp.**

"(No. 28, June 28, 1909.) From Nhamacurra, Quilimane, Portuguese East Africa. Native name (Chizena) 'Tumbanimasa.' A plant of the low moist lands of the Zambezi Valley. Flower pale yellow, medium size, opening nearly downward. Bulb, pale-brown coat, yellow inside. Height 2 to 3 feet." (*Barrett.*)

**25870. STIZOLOBIUM sp.**

From Barbados, British West Indies. Presented by Mr. Francis Watts, Commissioner of Agriculture, through Mr. John R. Bovell, superintendent. Received August 4, 1909.

"Bengal bean."

**25871. TRIFOLIUM PRATENSE L.****Red clover.**

From Huntsville, Ala. Purchased from Mr. Clarendon Davis. Received August 6, 1909.

"Seed of red clover, which has proved disease resistant at Huntsville, where red clover usually suffers severely. This strain was developed from surviving plants."

(*J. M. Westgate.*)

**25874. PASSIFLORA EDULIS Sims.****Passion fruit.**

From Sydney, Australia. Presented by Van Dyk & Lindsay, importers, 209 Washington street, New York, N. Y. Received August 20, 1909.

See S. P. I. No. 12899 for description.

*Distribution.*—A native of Brazil, and cultivated in other tropical countries.

**25876. PHASEOLUS LUNATUS L.**

Presented by Mr. O. W. Barrett, Director of Agriculture, Lourenço Marquez, Portuguese East Africa. Received August 21, 1909.

"(No. 30, July 24, 1909.) A slender-stem, climbing, bean-like plant received from Mr. Henry Brown, of Mlanje, Nyasaland, and stated by him to have been brought from the Kongo basin. Grown at Lourenço Marquez. Flowers in short racemes, whitish." (*Barrett.*)

**25879. BELOU MARMELOS (L.) W. F. Wight.****Bael.**

From Lahore, Punjab, India. Presented by Mr. W. R. Mustoe, superintendent, Government Archæological Gardens. Received July 31, 1909.

See S. P. I. No. 24450 for description.

**25880. PRUNUS TOMENTOSA Thunb.**

From Ottawa, Canada. Presented by Mr. W. T. Macoun, horticulturist, Central Experimental Farm. Received at the Upper Mississippi Plant Introduction Garden, Ames, Iowa, July 29, 1909.

"(Ames Ac. No. 458, 1909.) 'This cherry appears to be hardier in fruit bud than any other cherry we have at the Experimental Farm, and as it makes good preserves and is fair eating I think it quite an acquisition.' (*Macoun.*) For more complete description, see Annual Report, W. T. Macoun, horticulturist, Central Experimental Farm, Ottawa, Canada. 1908 : 106." (*S. A. Beach.*)

*Distribution.*—A shrub or small tree, occurring in the northwestern part of India, northern China, Manchuria, and Japan.

**25884 to 25887.**

From Cochin China. Secured by Mr. Xavier Salomon, chief, Botanical Garden, Saigon, and presented by Mr. Jacob E. Conner, American consul. Received August 24, 1909.

**25884 to 25887—Continued.**

Plants of the following:

**25884 to 25886.** From Cape St. Jacques.

**25884.** CINNAMOMUM LOUREIRII Nees.

"This species is supposed to be one of the most valuable sources of some of the best cinnamon that comes to our market." (*R. H. True.*)

*Distribution.*—A native of the mountains of Cochin China and of Japan.

**25885.** ATALANTIA sp.

**25886.** TETRACRONIA CYMOSA Pierre.

*Distribution.*—A shrub or small tree, native of the mountains in the vicinity of Binh Dinh, French Indo-China.

**25887.** GARCINIA MANGOSTANA L.

**Mangosteen.**

From Saigon. "This delicious fruit is about the size of a mandarin orange, round and slightly flattened at each end, with a smooth, thick rind, rich red-purple in color, with here and there a bright, hardened drop of the yellow juice which marks some injury to the rind when it was young. As these mangosteens are sold in the Dutch East Indies—hooped up on fruit baskets or made up into long, regular bunches, with thin strips of braided bamboo—they are as strikingly handsome as anything of the kind could well be, but it is only when the fruit is opened that its real beauty is seen. The rind is thick and tough, and in order to get at the pulp inside it requires a circular cut with a sharp knife to lift the top half off like a cap, exposing the white segments, five, six, or seven in number, lying loose in the cup. The cut surface of the rind is of a most delicate pink color and is studded with small yellow points formed by the drops of exuding juice. As you lift out of this cup, one by one, the delicate segments, which are the size and shape of those of a mandarin orange, the light-pink sides of the cup and the veins of white and yellow embedded in it are visible. The separate segments are between snow-white and ivory in color and are covered with a delicate network of fibers, and the side of each segment where it presses against its neighbor is translucent and slightly tinged with pale green. As one poises the dainty bit of snowy fruit on his fork and looks at the empty pink cup from which it has been taken, he hardly knows whether the delicate flavor or the beautiful coloring of the fruit pleases him the more, and he invariably stops to admire the rapidly deepening color of the cut rind as it changes on exposure to the air from light pink to deep brown. The texture of the mangosteen pulp much resembles that of a well-ripened plum, only it is so delicate that it melts in your mouth like a bit of ice cream. The flavor is quite indescribably delicious and resembles nothing you know of, and yet reminds you, with a long after-taste, of all sorts of creams and ices. There is nothing to mar the perfection of this fruit, unless it be that the juice from the rind forms an indelible stain on a white napkin. Even the seeds are often partly or wholly lacking, and, when present, are generally so thin and small that they are really no trouble to get rid of. Where cheap and abundant, as in Java, one eats these fruits by the half peck, and is never tired of them. They produce no feeling of satiety, such as the banana and the mango do, for there is little substance to the delicate pulp." (*David Fairchild.*)

**25888 to 25890.**

From India. Presented by Mrs. Effie Pyle Fisher, Igatpuri, through Miss Audrey Goss. Received August 25, 1909.

**25888 to 25890—Continued.**

Seeds of the following:

**25888. FERONIA ELEPHANTUM** Correa.

"This is the wood-apple of India and Ceylon, a deciduous tree with pinnate leaves, bearing a fruit about the size of an orange, but with a very thick, woody rind.

"The pulp of the fruit is acid and aromatic and is sometimes eaten by the natives of India; it is also used to prepare a jelly much resembling that made from black currants, but this jelly is said to have a very astringent taste.

"This plant is allied to the bael fruit of India, *Belou marmelos*, and is being grown to hybridize with that species, and also for trial as a stock upon which to graft it." (W. T. Swingle.)

*Distribution.*—A medium-sized tree, found in the sub-Himalayan forests. from the Ravi eastward, and throughout the greater part of the plains of India, being more frequent in the moist tracts of Bombay, Madras, Bengal, and Burma than in northern India.

**25889. BELOU MARMELOS** (L.) W. F. Wight.**Bael.**

Both of the above are from the state gardens, Baroda.

**25890. BELOU MARMELOS** (L.) W. F. Wight.**Bael.**

From Mr. George Hodson, florist and seedsman, Bangalore.

See S. P. I. No. 24450 for description of *Belou marmelos*.

**25891 to 25893.**

From Ootacamund, India. Presented by Rev. G. N. Thomssen, American Baptist Telugu Mission, Bapatia, South India. Received August 20, 1909.

Seeds of the following:

**25891. RHODOMYRTUS TOMENTOSA** (Ait.) Wight.

The Downy myrtle, or Hill gooseberry, is a handsome evergreen shrub, with broad glossy leaves, pink flowers larger than those of a peach and lasting for several weeks, and dark-purple berries about the size of a cherry and tasting like a raspberry. The fruits are eaten raw, and used for making jam and jelly. (*Adapted from Bailey.*)

*Distribution.*—An evergreen shrub, native of the southeastern part of Asia, extending from India through China, the Malay Archipelago, and the Philippines to Japan.

**25892. PHYSALIS PERUVIANA** L.

From plants of ten years' select cultivation of the South African Cape gooseberry in India.

*Distribution.*—A native of Peru and cultivated throughout the Tropics.

**25893. (Unidentified.)**

White straw flowers growing wild on the Nilgiris.

**25894 to 25897.**

From Simla, India. Presented by Mr. E. Cotes, Indian News Agency, through Mr. Frank N. Meyer. Received August 27, 1909.

Seeds of the following:

**25894. AMYGDALUS PERSICA** L.**Peach.****25895. PRUNUS ARMENIACA** L.**Apricot.**

**25894 to 25897—Continued.****25896. PRUNUS PUDDUM Roxb.****Cherry.**

*Distribution.*—A tree, native of the northern part of India, extending from the Indus to Sikkim, usually at an elevation of between 2,500 and 7,000 feet.

**25897. PYRUS sp.****Pear.**

"These seeds were collected from wild Himalayan fruit trees, growing at an elevation of 7,000 feet about Simla." (*Cotes*.)

**25898 to 25901. VICIA FABA L.****Horse bean.**

From United Provinces, India. Presented by Mr. T. F. Main, Deputy Director of Agriculture, Poona, Bombay Presidency. Received August 27, 1909.

"The three last numbers seem to be of one variety collected from different villages, while the first is quite different." (*Main*.)

**25902 and 25903. VICIA FABA L.****Horse bean.**

From Egypt. Presented by Mr. George P. Foaden, secretary, Khedivial Agricultural Society, Cairo. Received August 28, 1909.

Seeds of the following; notes by Mr. Foaden.

**25902. *Saidi*.** Planted in Upper Egypt under basin irrigation.

**25903. *Beheri*.** Planted in Lower Egypt under canal irrigation.

These are the same variety, but recognized by the cultivators as being cultivated under two different systems of irrigation.

**25904 to 25907. VICIA FABA L.****Horse bean.**

From Friesland Province, Holland. Presented by Dr. M. Greshoff, Koloniaal Museum, Haarlem, Holland. Received August 6, 1909.

**25908. MYRICA NAGI Thunb.**

From Tangsi, China. Procured by Rev. Alexander Kennedy, at the request of Mr. Frank N. Meyer. Received August 21, 1909.

See S. P. I. Nos. 22977 and 22904 to 22906 for descriptions.

"These seeds are for stocks; better varieties are to be grafted on to them later. The plants are exceedingly hard to transplant. The trees thrive wherever the locust does." (*Meyer*.)

**25909. MIMUSOPS KAUKI L.****"Adam's-apple."**

From Lawang, Java. Presented by Mr. M. Buysman, Hortus tenggerensis. Received August 26, 1909.

A large tree, native of India, the Malay Archipelago, and Australia. The fruit resembles *Zizyphus jujuba* in flavor, and is edible. The wood is red, fine grained, and easy to work.

**25910. VIGNA UNGUICULATA (L.) Walp.****Cowpea.**

From Entebbe, Uganda, British East Africa. Presented by the Botanical, Forestry, and Scientific Department. Received August 26, 1909.

Brown. There seem to be several varieties in this lot.

**25911 and 25912.**

From Lal Bagh, Bangalore, India. Presented by Mr. G. A. Gammie, Imperial Cotton Specialist, Kirkee, India, at the request of Mr. J. Mollison, Inspector-General of Agriculture in India. Received August 30, 1909.



**25911 and 25912—Continued.**

Seeds of the following:

**25911.** *FERONIA ELEPHANTUM* Correa.**Wood-apple.**

See No. 25888 for description.

**25912.** *BELOU MARMELOS* (L.) W. F. Wight.**Bael.**

"The bael fruit is highly prized by natives of this country and is an article of food with them, especially in Upper India. A very nice cooling drink is made from its pulp in the hot season, also a nice jam is prepared out of it. The unripe and the ripe fruit and its rind, root, leaves, and flowers are used medicinally. Sherbet made from the ripe fruit is very valuable in cholera and bowel complaints." (*Gammie.*)

**25913 to 25920.**

From Hangchow, China. Presented by Rev. W. S. Sweet, Wayland Academy, Baptist Missionary Union, Eastern China Mission. Received August 2, 1909.

Seeds of the following; notes by Mr. Sweet.

**25913 and 25914.** *VICIA FABA* L.**Broad bean.****25913.** Green.**25914.** Brown.

Vine 2 feet long. Used as human and animal food and also for firewood. Ripe from April to May.

**25915.** *DOLICHOS LABLAB* L.**Bonavist bean.**

White. Known as the crested bean; vine 4 to 6 feet; used as human food and for firewood; ripe in September.

**25916.** *PHASEOLUS ANGULARIS* (Willd.) W. F. Wight.**Adzuki bean.**

Red. Used for food; vine small and fine, 6 inches high; ripe in September.

**25917.** *PISUM SATIVUM* L.

Tall vine; ripe from May to June; used for forage.

**25918.** *VIGNA SESQUIPEDALIS* (L.) W. F. Wight.

Black. Tall vine.

**25919 and 25920.** *GLYCINE HISPIDA* (Moench) Maxim.**Soy bean.****25919.** Yellow. Vine 1 foot high; ripe from November to December.

The cheese made from this bean forms a large element of food here; if adapted to American taste a profitable business could be established in the States.

**25920.** Black. Ripe from June to August; used the same as No. 25919.

**25921 to 25925.**

From Leh, Ladakh, Kashmir, British India. Presented by Mr. Rassul Galwan. Received August 27, 1909.

Seeds of the following; notes by Mr. Galwan.

**25921.** *TRITICUM AESTIVUM* L.**Wheat.**

Before this seed is sown the field is put under water till the ground is wet a half foot deep. Then wait ten to twenty days, till the ground is fairly dry and the seed can be sown. The ground must be neither too wet nor too dry. Before the seed is sown manure is spread about one-half inch thick over the ground. The first water is given when the wheat is about 2 inches high, the ground being soaked about one-half foot deep. After it becomes dry again a second watering is given. It is better to wait a little too long than to water too quickly.



**25921 to 25925—Continued.**

Up to the third watering care must be used, after that the wheat is strong and water can be given at any time it is dry. The more water given the better the crop.

**25922. HORDEUM sp.****Hull-less barley.**

The method of sowing this is the same as for wheat, the only difference being that this can be sown late, as it ripens in two to three months. Flour is made from it, but the bread is not as good as the bread made from wheat flour. Most people use it, therefore, as Suttoo, which is made as follows: First, wash the barley in cold water, after waiting one day put in the sunshine and let dry. Then fry in an iron pot until brown, then take to a mill and have it ground into flour, which is eaten with Ladaki tea; some eat it with water, some mix it with butter, sugar, and tea, for there is no need to cook it again. If hot things can not be had, it can be eaten with cold water.

**25923. VICIA FABA L.****Horse bean.**

Brownish black.

**25924. LATHYRUS SATIVUS L.**

This is sown with wheat. It can be sown in places a little cold, and there is no need to use any manure. The sowing methods are the same as those used in sowing wheat. The seed is sown about the 10th of May and ripens in about three months. At the sowing time the seed needs more moisture than wheat or it will not grow well.

**25925. PISUM ARVENSE L.****Field pea.**

This is sown in hot places, and does best in sandy soil. It is sown here about the 20th or the 25th of April, and ripens in about three months. The method of sowing is the same as that of wheat, except that no manure is put on the field. If manured the plants grow very large but without beans. The stalks are good to feed to animals. Before sowing, the ground should be wetter than when wheat is sown or the beans will not do well.

**25926 and 25927.**

From Igatpuri, India. Presented by Mrs. Effie Pyle Fisher, through Miss Audrey Goss. Received August 31, 1909.

Seeds of the following:

**25926. FERONIA ELEPHANTUM Correa.**

See No. 25888 for description.

**25927. ANONA RETICULATA L.****Custard-apple.**

See S. P. I. No. 5210 for description.

**25928. COLCHICUM sp.**

From Alpine heights of Geovjé Dag, above Hassanbeyli, Amanus Mountains.

Presented by Mrs. F. A. Shepard, Aintab, Turkey. Received August 19, 1909.

"A wild colchicum having large, pink, very showy blossoms in September. Fruit ripens in May." (Shepard.)

**25929 to 25931. CUCUMIS MELO L.****Muskmelon.**

From Columbia, Mo. Presented by Mr. G. C. Broadhead. Received August 21, 1909.

**25929 to 25931—Continued.**

Seeds of the following:

**25929.** 1903 crop.**25931.** 1909 crop.**25930.** 1908 crop.

"Between 1825 and 1835 the Rev. Albert Holladay, of Virginia, was Presbyterian missionary to Persia. He brought to America seeds of a cantaloupe. My father raised this melon in Virginia, and in 1836 brought seed to St. Charles County, Mo., where he raised it until his death in 1853. Relatives and friends have since raised it. I have for thirty years, also my brother William, living at Clayton, St. Louis County. The melon raised in Virginia and in Missouri for ten or twenty years was smaller and sweeter than that raised since. It seems the first was not much over 4 inches in diameter and good to the outer rind. The melon now is as much as 6 inches in diameter and has at least a one-half of an inch of rind. When ripe it pulls off easily and generally has a red gum at stem where it breaks. A good melon of this kind is still better than most others and we call it the 'Persian cantaloupe.'" (*Broadhead.*)

**25932. MEDICAGO SATIVA L.****Alfalfa.**

From Aintab, Turkey. Presented by Mrs. F. A. Shepard. Received September 3, 1909.

"This seed was collected in the arid regions about Aintab, about 3,500 feet above the sea and 100 miles inland. There is scarcely any rain for five months in the year. The plant is not planted for pasturage, but grows upon wild lands, where sheep and goats browse." (*Shepard.*)

**25934. CITRULLUS VULGARIS Schrad.****Watermelon.**

From Robertson, Cape Colony, South Africa. Presented by Mr. Charles P. Lounsbury, government entomologist, Cape of Good Hope, Department of Agriculture, Cape Town, who procured the seeds from Mr. E. A. Visser, manager of the Experiment Station at Robertson. Received September 4, 1909.

*Monketaan.*

"Mr. Visser says this plant yielded melons at the rate of 75 tons an acre on the station grounds without any special care, and that the melons keep well and are excellent stock food. They weigh about 30 pounds each and have a firm, sweetish, somewhat tough pulp. The rind is mottled pale and dark green like common watermelons, as a rule, but is sometimes whitish in this strain. The seeds do not separate readily and no one seems to be trying to save more than he needs for himself, so there is little chance of buying a supply unless it is ordered a year ahead. Mr. Jack, who was director in the department here and is now farming, is trying in vain to get seed for 100 acres, which at least indicates that the merits of the crop appeal to him. Mr. Thornton, our agriculturist, tells me the plant has long grown to the west of Kuruman on the east side of the Kalihari desert. (The small Tsama melon sent to the United States grows on the west side.) He thinks it was probably cultivated there by natives in bygone days, but now it grows wild. Some years ago he got down seeds and had them planted near Graaff Reinet. Farmers of the district soon appreciated the value of the melon and took to its cultivation as a stock food. It is said on good authority to have yielded as high as 150 tons an acre around there, the ground becoming almost obscured by the fruits. The strain introduced to the Robertson station is from Graaff Reinet way, not direct from the desert, and Thornton thinks there is a possibility that it is not quite true to type; but if it is not, it is an improvement on the original he thinks.

**25934—Continued.**

"It seems to me that this or other of the South African melons should be more worth cultivating in arid parts of the West than the thornless prickly pear. Of course the melons want water, but much of what they get they store away for months." (Lounsbury.)

"One of our experimenters of the *Monketaan* melon has just reported that the return per acre of melons amounted to 163 tons, and it was found that on an average there were two melons to every square yard of land. This melon, according to the analysis we have already had made, is high in feeding value and promises to take a leading part in some of our stock districts." (Extract from letter of Mr. R. W. Thornton, government agriculturist, Cape Town Department of Agriculture, August 24, 1909.)

**25935. VICIA VILLOSA Roth.****Hairy vetch.**

From Moscow, Russia. Purchased from Immer & Son, through Prof. N. E. Hansen, Agricultural Experiment Station, Brookings, S. Dak., while traveling as an agricultural explorer for this Department. Received September 7, 1909.

**25936. Rosa sp.****Rose.**

From Ogden, Utah. Presented by Miss Pearle Cramer, United States Department of Agriculture, Forest Service. Received September 7, 1909.

Yellow. "This rose, so far as I have been able to ascertain, is native only to Utah where it grows in great profusion." (Cramer.)

**25937. ORYZA SATIVA L.****Rice.**

From Tsangsheng, Kwangtung Province, near Canton, China. Presented by Mr. Stuart J. Fuller, American vice consul-general-in-charge, Hongkong, for whom it was procured by Mr. Leo Bergholz, American consul-general at Canton. Received September 9, 1909.

"*Siemoa*, the translation of which means 'Best quality refined.' The Chinese rice merchant states that the exportation of this rice in any quantity or in samples is forbidden by the Chinese Government." (Amos P. Wilder, American consul-general, Hongkong, China.)

**25938 to 25940. MANGIFERA INDICA L.****Mango.**

From Philippine Islands. Procured by Mr. William S. Lyon, Gardens of Nagtajan, Manila, P. I. Received September 8, 1909.

Seeds of the following standard varieties:

**25938. Carabao.**

See S. P. I. Nos. 24927 and 25659 for previous introductions.

**25939. Pico.**

See S. P. I. No. 24170 for previous introduction.

**25940. Pahutan.** "From my viewpoint this is the best, *not* horticulturally, other than being a vigorous grower, early fruiter, and enormously prolific. Its very serious defects—small size, scanty flesh, and excessively large seed—are from my point of view fully offset by a smoothness, sweetness, juiciness, and flavor unapproached by any other. I have eaten the famous *Alphonso* mango in Calcutta and do not consider it ace high with *pahutan*. *Pahutan* further has a very thick rind. This, while still further diminishing its scanty flesh, probably adds to its shipping qualities." (Lyon.)

**25941. ELEPHANTORRHIZA ELEPHANTINA (Burch.) Skeels.**

*Acacia elephantina* Burch., Trav., vol. 2, p. 236. 1824.

*Acacia elephantorrhiza* (Burch.) D. C., Prod., vol. 2, p. 457. 1825.

*Elephantorrhiza burchellii* Benth., Hook Journ. Bot., vol. 4, p. 344. 1842.

Although Burchell is given as the authority in De Candolle's Prodrômus for the specific name *elephantorrhiza*, the name he really used and under which he gave an excellent botanical diagnosis is that here recognized.

From Pretoria, Transvaal, South Africa. Presented by Prof. J. Burt Davy, director, Transvaal Department of Agriculture. Received September 10, 1909.

Seeds.

"All grazing animals, wild and domestic, are exceeding fond of this plant. It has long, succulent roots and an underground stem. It does not shoot until rather late in the summer, seldom before December, and its stems are killed again by the first frosts of May. The seed-pods are still green when the frost comes, and the seeds not ripe, but they are so well protected by the strong, leatherlike pod, that the frost can not hurt them, and they ripen in the pod long after the stem that bore them has been killed by the frost. The roots are used for tanning leather." (*Mrs. Barber, in Harvey, Flora Capensis, vol. 2, p. 277.*)

*Distribution.*—South Africa. Common in grassy places between the Klipplaat and Zwartkey rivers in Cape Colony. It occurs also in the Cradock and Queenstown districts in Cape Colony, and is reported from the "Zooloo Country." Originally described from near "Klaawater" in the southern part of Orange River Colony.

**25942. BERBERIS SANGUINEA Franch.**

From Nancy, France. Purchased from V. Lemoine & Sons. Received September 14, 1909.

"This is a little-known species from China and appears to be closely allied to *Berberis nepalensis*. The blooms are said to be deeper orange-red than any other species. These plants are imported for hybridizing purposes." (*W. Van Fleet.*)

*Distribution.*—A native of dry stream beds in the province of Szechwan, China.

**25950 to 25953. VICIA FABA L.**

From Valencia, Spain. Presented by Mr. Charles S. Winans, American consul. Received September 8, 1909.

Seeds of each of the following:

**25950 to 25952.**

**Broad bean.**

**25950.** *Caliente.* Light brown.

**25951.** *Panesca.* Purplish brown.

**25952.** *Murciana.* Dark purple.

**25953.**

**Horse bean.**

*Favon.* Purplish black.

**25956 and 25957.**

From Amanus Mountains, Turkey in Asia. Presented by Mrs. F. D. Shepard, Adana. Received September 9, 1909.

Seeds of each of the following:

**25956.** *AVENA SATIVA L.*

**Oat.**

**25957.** *VICIA ERVILLA (L.) Willd.*

**Bitter vetch.**

**25959 to 25962. ZEA MAYS L.****Corn.**

From Central Soledad, Cienfuegos, Cuba. Presented by Mr. Robert M. Grey, Harvard Botanical Experiment Station. Received September 21, 1909.

Seeds of the following; notes by Mr. Grey.

**25959.** *Harvard selected flint.* This is our surest cropper, best keeper, and, being free from surface starch, less subject to attack from weevils and ants.

**25960.** *Selected white flint Cuban.* This is used as a sweet or table corn, is early, and a small-cob variety.

**25961.** *Hybrid purple cob (Cuban dent × Cuban flint).*

**25962.** *Cuban dent.*

These two last are the varieties commonly cultivated here and are very productive.

The above have been under selection for six years. The husk of all closes tight at the apex, a great prevention and safeguard against insects.

**25963. VICIA FABA L.****Horse bean.**

From Magyaróvár, Hungary. Presented by The Plant Culture Experiment Station, requested from Prof. A. Cserhati. Received September 22, 1909.

"These seeds are planted in the spring and mature in about one hundred days. The plants grow from 2½ to 40 centimeters high. The beans are ground up and make a very nutritive food for stock. The fodder is of hardly any value." (*Gyárfás.*)

**25964. GOSSYPIMUM HIRSUTUM L.****Cotton.**

From Nyasaland Protectorate, British Central Africa. Presented by Mr. J. Stewart J. McCall, Director of Agriculture, Zomba. Received September 27, 1909.

"Seed of Upland cotton which received the first prize at the recent show at Blantyre. I think you will consider it a very high-class hirsutum cotton, and it is very gratifying as we received 6d. to 7d. per pound for it at the Manchester market." (*McCall.*)

**25965. VIGNA UNGUICULATA (L.) Walp.****Cowpea.**

From Pretoria, Transvaal, South Africa. Presented by Prof. J. Burt Davy, government agrostologist and botanist, Transvaal Department of Agriculture. Received September 10, 1909.

"Kafir bean." This lot apparently contains several different varieties.

**26047. GARCINIA MANGOSTANA L.****Mangosteen.**

From Port of Spain, Trinidad, British West Indies. Presented by Mr. F. Evans, botanical department, Department of Agriculture. Received fall of 1909.

Seeds. See No. 25887 for description.

"The mangosteen will be an unusually good shipper, as tropical fruits go. The small crate of fruits from which these seeds were taken, shipped by Mr. Evans on the 28th of September, was delayed for more than a week in New York and reached Washington on the 19th of October. Even after holding these fruits for five days after arrival in Washington—i. e., twenty-six days from the time they were picked—they were still in an edible condition, although naturally they had lost a good deal of their delicacy and the pulp had begun to adhere to the thick rind. One remarkable feature about these fruits lies in the fact that as they decay the rind hardens until it becomes almost as hard as a rock. I believe it may not be necessary to crate these in shipment on this account. A single rotten fruit may not infect others, as in the case of mangos or other soft-skinned fruits; in fact, as tropical fruits go, it seems to be an ideal shipper." (*David Fairchild.*)



## PUBLICATION OF NEW NAMES.

It has been thought desirable to call attention to the new names which it is occasionally found necessary to publish in the inventory by giving a list of such names as they occur. This list will therefore appear in future issues on the page of the inventory preceding the index.

The following name is published in this issue:

**25941.** ELEPHANTORRHIZA ELEPHANTINA (Burch.) Skeels.

The names given below have been published in preceding issues of the inventory:

**21750.** ALBIZZIA ADIANTHIFOLIA (Schum.) W. F. Wight.

Bulletin 137 (Inventory No. 14), Bureau of Plant Industry, U. S. Dept. of Agriculture, 1909, p. 12.

**21797.** SESBAN BISPINOSA (Jacq.) Steud.

Bulletin 137 (Inventory No. 14), Bureau of Plant Industry, U. S. Dept. of Agriculture, 1909, p. 15.

**21820.** XIPHAGROSTIS CONDENSATUS (Hack.) W. F. Wight.

Bulletin 137 (Inventory No. 14), Bureau of Plant Industry, U. S. Dept. of Agriculture, 1909, p. 17.

The correct name for the above is *Miscanthus condensatus* Hack.; the genus *Xiphagrostis* [Contributions from the U. S. National Herbarium, vol. 9, 1905, pp. 399-400] having been based on a misconception of the type of *Miscanthus* as established by Andersson in 1856. That author indicated in a note that he did not consider the first species, *M. capensis*, as typical of the genus, and the second species, *M. japonicus*, should accordingly be recognized as the type. The usual application of the generic name *Miscanthus* therefore remains unchanged.

**21824.** PHASEOLUS ANGULARIS (Willd.) W. F. Wight.

Bulletin 137 (Inventory No. 14), Bureau of Plant Industry, U. S. Dept. of Agriculture, 1909, p. 17.

**21893.** CHRYSANTHEMUM STIPULACEUM (Moench) W. F. Wight.

Bulletin 137 (Inventory No. 14), Bureau of Plant Industry, U. S. Dept. of Agriculture, 1909, p. 21.

**22349.** PHRAGMITES VULGARIS LONGIVALVIS (Steud.) W. F. Wight.

Bulletin 137 (Inventory No. 14), Bureau of Plant Industry, U. S. Dept. of Agriculture, 1909, p. 46.

**22390.** GARCINIA TINCTORIA (DC.) W. F. Wight.

Bulletin 137 (Inventory No. 14), Bureau of Plant Industry, U. S. Dept. of Agriculture, 1909, p. 50.



**22813. PINELLIA COCHINCHINENSE (Blume) W. F. Wight.**

Bulletin 142 (Inventory No. 15), Bureau of Plant Industry, U. S. Dept. of Agriculture, 1909, p. 35.

**22957. BELOU MARMELOS (L.) W. F. Wight.**

Bulletin 142 (Inventory No. 15), Bureau of Plant Industry, U. S. Dept. of Agriculture, 1909, p. 48.

**23219. FIRMIANA SIMPLEX (L.) W. F. Wight.**

Bulletin 142 (Inventory No. 15), Bureau of Plant Industry, U. S. Dept. of Agriculture, 1909, p. 67.

**23428. MYRCIARIA EDULIS (Vell.) Skeels.**

Bulletin 148 (Inventory No. 16), Bureau of Plant Industry, U. S. Dept. of Agriculture, 1909, p. 14.

**23472. PHYLLANTHUS ACIDA (L.) Skeels.**

Bulletin 148 (Inventory No. 16), Bureau of Plant Industry, U. S. Dept. of Agriculture, 1909, p. 17.

**23897. CRYPTOCARYA RUBRA (Mol.) Skeels.**

Bulletin 153 (Inventory No. 17), Bureau of Plant Industry, U. S. Dept. of Agriculture, 1909, p. 15.

**23963. BRASSICA PEKINENSIS (Lour.) Skeels.**

Bulletin 153 (Inventory No. 17), Bureau of Plant Industry, U. S. Dept. of Agriculture, 1909, p. 21.

**24087. CALLISTEMMA CHINENSIS (L.) Skeels.**

Bulletin 153 (Inventory No. 17), Bureau of Plant Industry, U. S. Dept. of Agriculture, 1909, p. 27.

**24591. BELOU GLUTINOSA (Blanco) Skeels.**

Bulletin 162 (Inventory No. 18), Bureau of Plant Industry, U. S. Dept. of Agriculture, 1909, p. 26.

**24631. GOURLIEA SPINOSA (Mol.) Skeels.**

Bulletin 162 (Inventory No. 18), Bureau of Plant Industry, U. S. Dept. of Agriculture, 1909, p. 31.

**25546. CLAUCEA LANSIUM (Lour.) Skeels.**

Bulletin 168 (Inventory No. 19), Bureau of Plant Industry, U. S. Dept. of Agriculture, 1909, p. 31.

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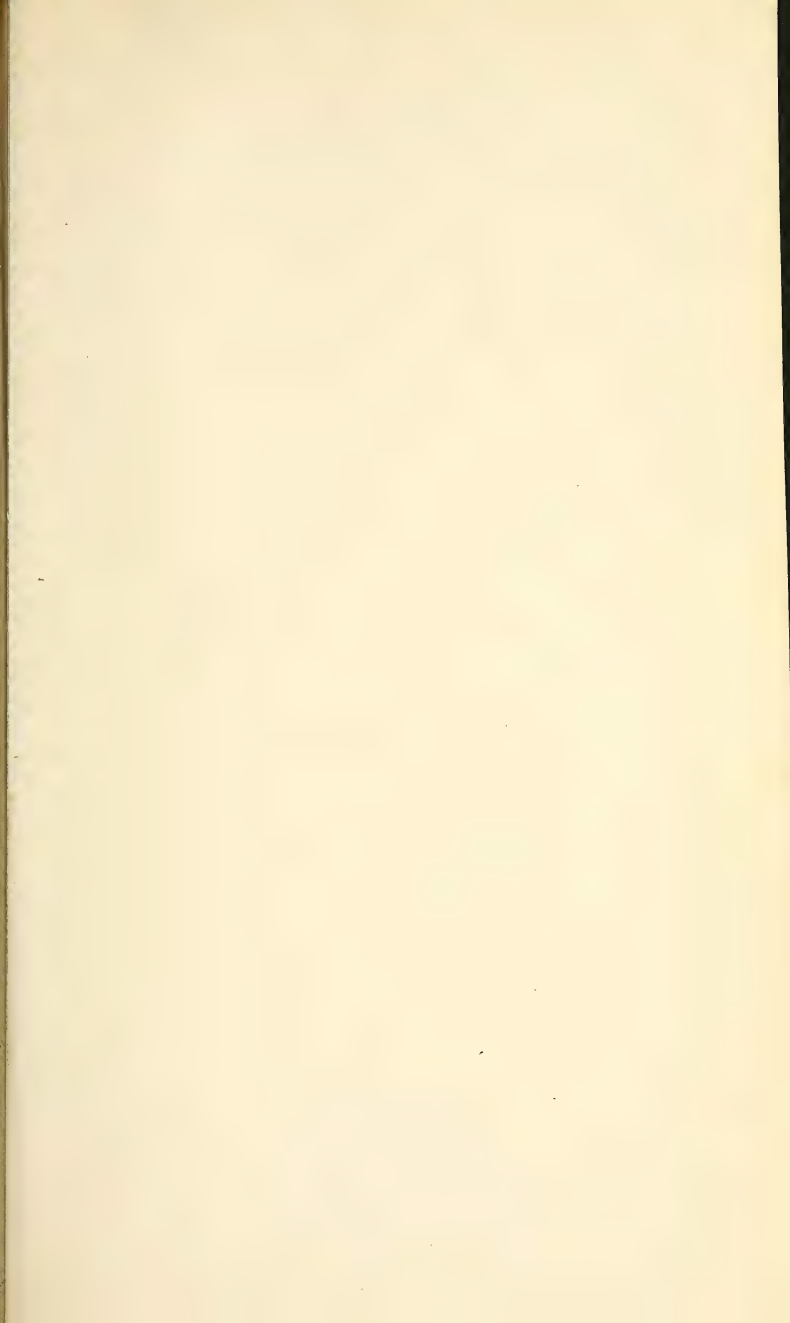
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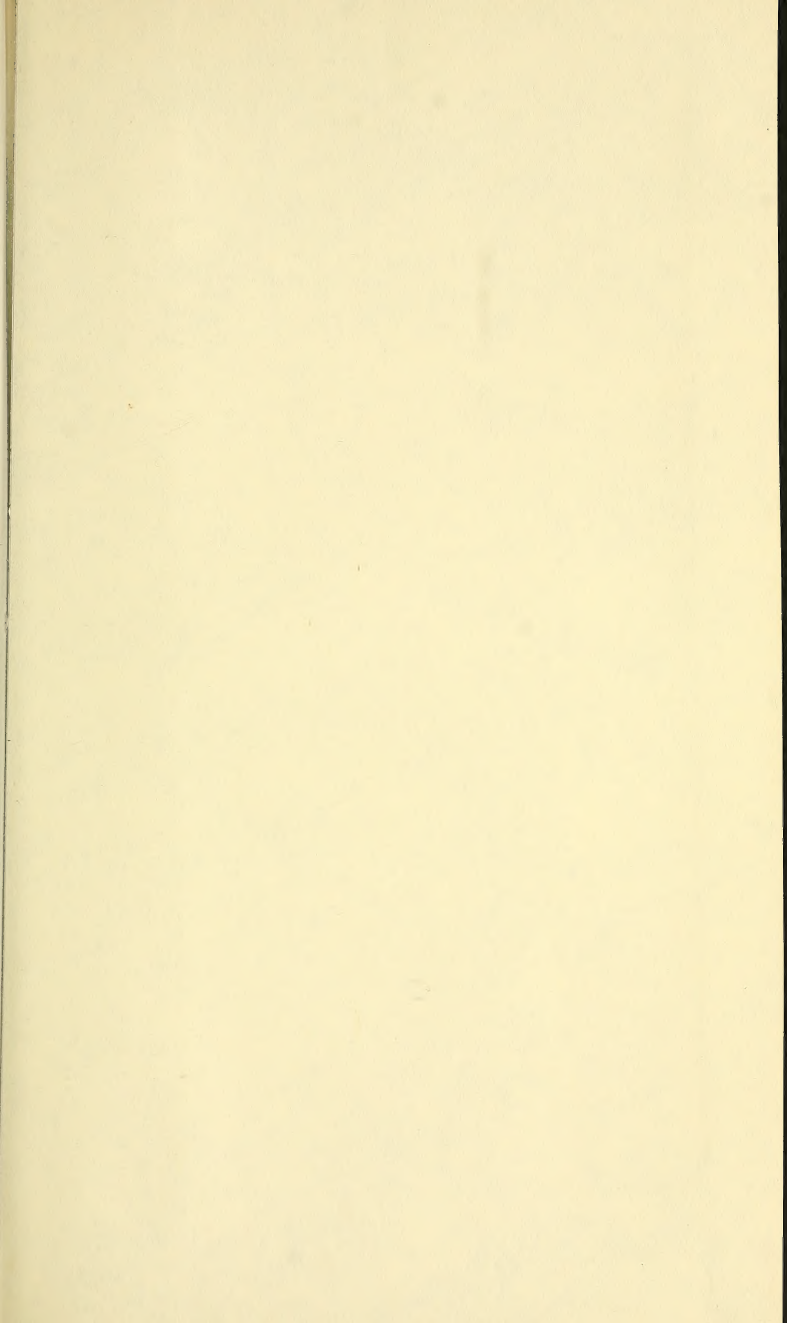
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